

## APPENDIX F.

### Entry into the Industry

As discussed in Appendix B, federal courts have held that Congress had ample evidence of discrimination in the transportation contracting industry in upholding the constitutionality of the Federal DBE Program (TEA-21), and the federal regulations implementing the program (49 CFR Part 26). Specifically, the federal courts found Congress “spent decades compiling evidence of race discrimination in government highway contracting, of barriers to the formation of minority-owned construction businesses, and of barriers to entry.”<sup>1</sup> Congress found that discrimination had impeded the formation of qualified minority business enterprises.

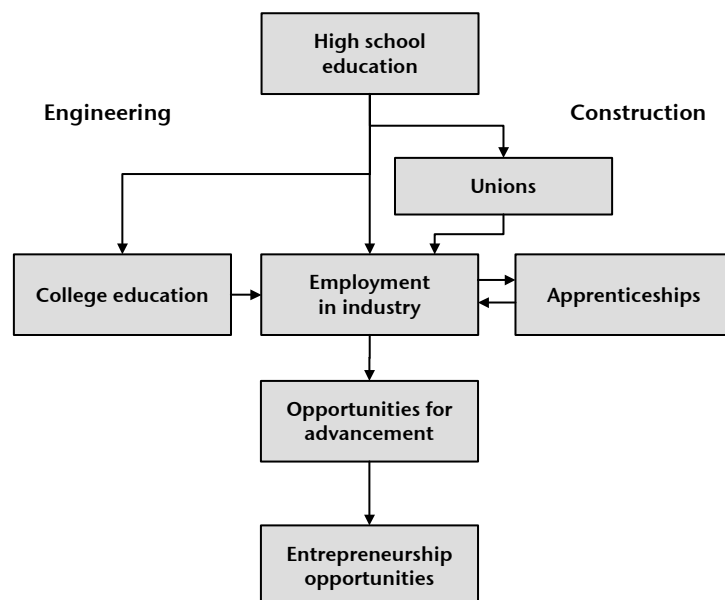
This section of the report examines whether some of these barriers to entry found for the nation as a whole also appear to occur in Idaho. The study team reviewed:

- Education and training related to the Idaho construction and engineering industries;
- Employment in the construction and engineering industries;
- Opportunities for advancement for individuals working in these industries; and
- Business formation and ownership in Idaho.

As illustrated in Figure F-1, this section examines potential barriers to minorities and women up through starting a business. Potential barriers including access to capital can also affect business ownership. These necessary inputs to starting and operating a business are discussed in Section IV of the report.

**Figure F-1.**  
**Model for studying the**  
**entry into industry**

Source:  
BBC Research and Consulting.



<sup>1</sup> *Sherbrooke Turf, Inc.*, 345 F.3d at 970, (citing *Adarand Constructors, Inc.*, 228 F.3d at 1167 – 76); *Western States Paving Co. v. Washington State DOT*, 407 F.3d 983 (9th Cir. 2005) at 992.

## Education and Training

Ten percent of the workforce in Idaho in 2000 was minority, including 6 percent Hispanic Americans, 2 percent Native American and less than 1 percent Asian-Pacific Americans. In 2000, 47 percent of the workforce was female, slightly lower than the women's share of the workforce for the nation as a whole. Figure F-2 details the percentages of workers in each race and gender group for Idaho and the United States.

The paths to job opportunities in construction and engineering, whether they be union programs to learn a construction trade or four-year college degrees in engineering, are important to understanding whether barriers affect employment opportunities for minorities and women that eventually affect the relative number of minority and female business owners in the Idaho construction and engineering industries.<sup>2</sup>

**Exhibit F-2.**  
**Percentage of all workers who are minority or female in Idaho and the U.S., 2000**

Idaho		United States	
<b>Race/ethnicity</b>		<b>Race/ethnicity</b>	
African American	0.8%	African American	11.4% **
Asian-Pacific American	1.4% **	Asian-Pacific American	3.4% **
Subcontinent Asian American	0.1%	Subcontinent Asian American	0.7% **
Hispanic American	5.7% **	Hispanic American	11.3% **
Native American	2.0% **	Native American	1.2% **
Other minority group	0.4%	Other minority group	0.4% **
<b>Total minority</b>	<b>10.3% **</b>	<b>Total minority</b>	<b>28.4%</b>
Non-Hispanic white	89.7%	Non-Hispanic white	71.6%
<b>Gender</b>		<b>Gender</b>	
Female	46.9% **	Female	47.9% **
Male	53.1%	Male	52.1%
<b>Total</b>	<b>100.0%</b>	<b>Total</b>	<b>100.0%</b>

Note: \*\* Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) is statistically significant at the 95% confidence level.

Source: BBC Research and Consulting from 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Construction.** Construction industry employees in Idaho typically have a high school degree with little or no college education. Based on the 2000 Census of Population, 37 percent of workers in construction were just high school graduates and 19 percent had not finished high school. Only 8 percent of people working in construction had at least a four-year college degree. Formal education beyond high school is not a prerequisite for most construction industry jobs.

Training is largely on-the-job and through trade schools and apprenticeship programs. Entry level jobs for workers out of high school are often laborers, helpers or apprentices. Positions that are more skilled may require additional training through a technical or trade school or through an

<sup>2</sup> Feagin, Joe R. and Nikitah Imani. 1994. Racial Barriers to African American Entrepreneurship: An Exploratory Study." *Social Problems*. 41 (4): 562-584.

apprenticeship or other employer-provided training program. Apprenticeship programs can be developed by employers, trade associations, trade unions and other groups. Workers can enter apprenticeship programs from high school or a trade school. Apprenticeships have traditionally been three- to five-year programs that combine on-the-job training with classroom instruction.<sup>3</sup>

In 2000, only 12.6 percent of Native American workers 25 years and older in Idaho had a college degree, about half of the rate for non-Hispanic white workers in this age group. Only 7.5 percent of Hispanic American workers had college degrees. In Idaho, Hispanic Americans comprise a relatively large share of workers with less than a high school education.

From these data, educational attainment does not appear to be a barrier for entry of minorities in the construction industry:

- Based on education requirements of entry level jobs and the limited education beyond high school for many Hispanic Americans and Native Americans, one would expect a relatively high representation of these minority groups in the Idaho construction industry.
- Because of the relatively high educational levels of Asian-Pacific Americans and Subcontinent Asian Americans (among Idaho workers 25 and older, 33 percent and 72 percent of these groups, respectively, have college degrees), one might expect relative representation of these groups in construction be lower than other workers.

The percentage of women working in Idaho with just a high school diploma is similar to that of men based on 2000 Census of Population data.

**Engineering.** About one-half of the individuals working in the engineering industry have at least a four-year college degree. When only examining people who work as engineers, this percentage increases to 77 percent.<sup>4</sup>

The level of education needed to become an engineer may present a barrier for Hispanic Americans and Native Americans. Figure F-3 examines the percentage of workers 25 and older who have at least a four-year degree. About 26 percent of non-Hispanic whites working in Idaho had at least a four-year college degree in 2000, similar to the rate for African-Americans. Relatively fewer Hispanic Americans and Native Americans working in the state had college degrees. Relatively more Asian-Pacific and Subcontinent Asian Americans had college degrees than non-Hispanic whites.

Women in Idaho are not as likely to have a four-year college degree as men.

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<sup>3</sup> Bureau of Labor Statistics, U.S. Department of Labor. 2006-07. "Construction." *Career Guide to Industries*. <http://www.bls.gov/oco/cg/cgs003.htm> (accessed February 15, 2007).

<sup>4</sup> BBC Research and Consulting from 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Figure F-3.**  
**Percentage of all workers 25 and older**  
**with at least a four-year degree in Idaho and the U.S., 2000**

Idaho		United States	
<b>Race/ethnicity</b>		<b>Race/ethnicity</b>	
African American	24.2%	African American	17.2% **
Asian-Pacific American	33.0% **	Asian-Pacific American	43.5% **
Subcontinent Asian American	72.3% **	Subcontinent Asian American	66.8% **
Hispanic American	7.5% **	Hispanic American	12.0% **
Native American	12.6% **	Native American	15.9% **
Other minority group	24.1%	Other minority group	29.0% **
<b>Total minority</b>	<b>14.9% **</b>	<b>Total minority</b>	<b>20.0% **</b>
Non-Hispanic white	25.9%	Non-Hispanic white	31.0%
<b>Gender</b>		<b>Gender</b>	
Female	23.4% **	Female	27.6% **
Male	26.2%	Male	28.4%
<b>All</b>	<b>24.9%</b>	<b>All</b>	<b>28.0%</b>

Note: \*\* Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) is statistically significant at the 95% confidence level.

Source: BBC Research and Consulting from 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Additional indices of high school educational attainment.** Because of the importance of college admission as a step in entering the engineering industry, the study team examined additional information on the educational achievement of minority high school students in Idaho.

According to the 2006-2007 Idaho Standards Achievement Test (ISAT) results, African American, American Indian and Hispanic students did not perform as well as non-Hispanic white students in reading and mathematics.<sup>5</sup>

- On the Idaho Standards Achievement Test (ISAT), 73 percent of African American students, 65 percent of American Indian students and 61 percent of Hispanic students were determined to be proficient in reading, compared with 84 percent of non-Hispanic white students.
- On the ISAT, 63 percent of African American students, 59 percent of American Indian students and 59 percent of Hispanic students demonstrated proficiency in mathematics, compared with 80 percent of non-Hispanic white students.

Asian students outperformed all other racial groups, including non-Hispanic white students, on the reading and mathematics portions of the ISAT.

<sup>5</sup> Idaho State Department of Education, 2006-2007 Adequate Yearly Progress Report.

A 1999 study reported that the mean combined score of African American students on the 1999 Standard Aptitude Test (SAT) was 964, which was 120 points lower than the mean combined score for non-Hispanic white students, representing one of the smallest SAT achievement gaps in the nation and significantly smaller than the 201-point gap between average scores of African American and non-Hispanic students across the entire nation.<sup>6</sup> However, the report cited that the sample of African-American test takers was too small in Idaho to be considered statistically significant.

**Additional factors affecting college engineering programs in Idaho.** Historically, college engineering programs in the United States were slow to open doors to minorities such as African Americans.<sup>7</sup> Idaho is home to three public engineering programs at the University of Idaho, Idaho State University and Boise State University. Figure F-4 compares the racial distribution of graduating high school seniors, undergraduates in the University of Idaho system and undergraduates in Idaho's engineering programs.

**Figure F-4.**  
**Minority enrollment at select Idaho campuses by race and ethnicity**

	Idaho high school graduating seniors (2003-2004)	Total enrollment at ID public universities* (2006)	Engineering enrollment** (2006)
African American	0.5 %	1.1	0.4
Asian-Pacific Islander	1.9	2.1	3.8
Native American/Alaskan Native	1.2	1.4	1.0
Hispanic	7.6	4.7	4.7
<b>Total</b>	<b>11.2 %</b>	<b>9.3 %</b>	<b>9.9 %</b>

Note: \* Includes University of Idaho, Idaho State University and Boise State University

\*\* Includes University of Idaho and Boise State University. Data for Idaho State University was not available.

Source: U.S. Department of Education Nation Center for Education Statistics (NCES), Idaho university websites and American Society for Engineering Education.

Data shows that most minority high school graduates are not significantly less likely to go to college in Idaho than non-minority high school graduates are. African American students made up a larger share of enrollment at Idaho public universities than they did of graduating high school seniors. Only Hispanic high school graduates made up a significantly smaller portion of the undergraduate population than the graduating high school senior population.

The racial distribution of the engineering student population differed somewhat from the racial distribution of the entire undergraduate population. African American undergraduates were less likely to be engineering students, and Asian American undergraduates were more likely to be engineering students. These data should be interpreted with caution, as engineering enrollment data includes an "other" racial category.

<sup>6</sup> "Ranking the States by Black-White SAT Scoring Gap." (2002). *The Journal of Blacks in Higher Education*.

<sup>7</sup> Unknown Author. 2003. "Blacks Strive to Build a Bridgehead in Academic Engineering." *The Journal of Blacks in Higher Education*. 41 (Autumn): 98-108, 98.

## Employment

With educational opportunities and attainment for minorities and women as context, BBC has examined employment in construction and engineering in Idaho.

**Construction.** Based on 2000 Census of Population data, 9 percent of people working in the Idaho construction industry in 2000 were minority:

- Hispanic Americans were 5 percent of people working in construction;
- African American and Asian-Pacific Americans were each less than 1 percent of people working in construction; and
- Native Americans were 3 percent of the construction workforce.

Representation of Hispanic Americans in the construction industry is slightly lower than for all industries as a whole (5 percent in construction versus 6 percent in all industries in Idaho), the opposite of what is found in the U.S. as a whole.

Native Americans are relatively more likely to work in construction over other industries in Idaho; 3 percent of construction workers are Native American, compared with 2 percent for all industries.

African Americans and Asian-Pacific Americans are relatively less likely to work in construction:

- Asian-Pacific Americans were 0.3 percent of the construction workforce and 1.4 percent of all workers in Idaho in 2000 (a statistically significant difference). The fact that Asian-Pacific Americans are more likely to go to college than other groups may explain part of this difference.
- African Americans were 0.3 percent of the construction workforce and 0.8 percent of all workers in Idaho (a statistically significant difference). Average educational attainment of African Americans is consistent with requirements for construction jobs, so education cannot explain the difference. A number of studies throughout the United States have argued that race discrimination by construction unions have held down employment of African Americans in construction trades.<sup>8</sup>
- Relative under-representation of African Americans and Asian-Pacific Americans was found in both 1980 and in 2000.<sup>9</sup> For example, 0.4 percent of construction industry workers were African American in 1980 compared with 0.3 percent in 2000.

Between 1980 and 2000, the share of construction workers in the United States who are women increased from 8.9 percent to 10.2 percent. In 2000, 10.9 percent of people working in the Idaho construction industry were women, slightly more than in 1980. Figure F-6 compares the composition of the Idaho construction industry with the total Idaho workforce.

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<sup>8</sup> Waldinger, Roger and Thomas Bailey. 1991. "The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction." *Politics & Society*, 19(3).

<sup>9</sup> Note that Census definitions of race and ethnicity have changed over time, which affects comparability of statistics from one census year to the next. Appendix G discusses how BBC coded data concerning race and ethnicity for each decennial census.

**Figure F-6.**  
**Demographics of workers in construction and all**  
**industries in Idaho and the U.S., 1980 and 2000**

	Construction		All industries	
	1980	2000	1980	2000
<b>Idaho</b>				
<b>Race/ethnicity</b>				
African American	0.4%	0.3% **	0.5%	0.8%
Asian-Pacific American	0.1%	0.3% **	0.9%	1.4%
Subcontinent Asian American	0.0% †	0.0% †	0.0%	0.1%
Hispanic American	2.1% **	4.8% **	2.9%	5.7%
Native American	0.8%	3.1% **	1.0%	2.0%
Other minority group	0.1%	0.5%	0.1%	0.4%
<b>Total minority</b>	<b>3.4%</b>	<b>8.9%</b>	<b>5.4%</b>	<b>10.3%</b>
Non-Hispanic white	96.5% **	91.1% **	94.6%	89.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Gender</b>				
Female	9.4% **	10.9% **	45.2%	46.9%
Male	90.6% **	89.2% **	54.8%	53.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<i>n=</i>	<i>2,483</i>	<i>4,009</i>	<i>36,153</i>	<i>50,269</i>
<b>United States</b>				
<b>Race/ethnicity</b>				
African American	7.7% **	7.5% **	9.9%	11.4%
Asian-Pacific American	0.6% **	1.3% **	1.4%	3.4%
Subcontinent Asian American	0.1% **	0.2% **	0.2%	0.7%
Hispanic American	5.7% **	15.8% **	5.6%	11.3%
Native American	0.9% **	1.6% **	0.6%	1.2%
Other minority group	0.1%	0.4%	0.1%	0.4%
<b>Total minority</b>	<b>15.1%</b>	<b>26.8%</b>	<b>17.7%</b>	<b>28.4%</b>
Non-Hispanic white	84.9% **	73.2% **	82.3%	71.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Gender</b>				
Female	8.9% **	10.2% **	46.0%	47.9%
Male	91.1% **	89.8% **	54.0%	52.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<i>n=</i>	<i>391,361</i>	<i>579,867</i>	<i>6,338,776</i>	<i>8,295,671</i>

Note: † Less than 0.05%.

\*\* Denotes that the difference in proportions between the construction and all industry groups for the census year is statistically significant at the 95% confidence level.

Numbers may not add to totals due to rounding.

Source: BBC Research and Consulting from 1980 and 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Importance of unions in entering the construction industry.** Idaho is a right-to-work state and the construction industry in the southern part of the state is not heavily unionized. Utah as well is a right-to-work state. Washington is not. Union contractors are more prevalent for work in the Idaho Panhandle. Therefore, BBC examined the role that unions play in recruiting and training the construction workforce.

Labor market researchers characterize construction as a historically volatile industry sensitive to business cycles, making the presence of labor unions important for stability and job security within the industry.<sup>10</sup> The temporary nature of construction work results in uncertain job prospects, and high turnover of laborers presents a disincentive for construction firms to invest in training. Some scholars have claimed that constant turnover has lent itself to informal recruitment practices and nepotism, compelling laborers to tap social networks for training and work. They credit the importance of social networks with the high degree of ethnic segmentation in the construction industry.<sup>11</sup> Unable to integrate themselves into traditionally white social networks, African Americans faced long-standing historical barriers to entering the industry.<sup>12</sup>

Construction unions aim to provide a reliable source of labor for employers and preserve job opportunities for workers by formalizing the recruitment process, coordinating training and apprenticeships, enforcing standards of work and mitigating wage competition. The unionized sector of construction would seemingly be the best inroad for African American and other underrepresented groups into the industry. However, discrimination by trade unions is identified as a major factor that has historically prevented minorities from obtaining employment in skilled trades.<sup>13</sup>

Researchers have suggested ways in which unions have perpetuated discrimination in construction:

- Unions have used admissions criteria that adversely affect minorities. Federal courts ruled in the 1970s that standardized testing requirements unfairly disadvantaged minority applicants with less exposure to testing and that requirements that new union members have relatives in the union perpetuate the effects of past discrimination.<sup>14</sup> More recent disparity studies in California reveal that these practices persist: admissions testing requirements for union membership were still being used that adversely affected minorities,<sup>15</sup> and applicants who were relatives of union members were often waived from admissions requirements.<sup>16</sup>

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<sup>10</sup> Applebaum, Herbert. 1999. *Construction Workers, U.S.A.* Westport: Greenwood Press.

<sup>11</sup> Waldinger, Roger and Thomas Bailey. 1991. "The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction." *Politics & Society*, 19(3).

<sup>12</sup> Feagin, Joe R. and Nikitah Imani. 1994. "Racial Barriers to African American Entrepreneurship: An Exploratory Study." *Social Problems*. 41( 4): 368-370.

<sup>13</sup> U.S. Department of Justice. 1996. Proposed Reforms to Affirmative Action in Federal Procurement. 61 FR 26042.

<sup>14</sup> Ibid. See *United States v. Iron Workers Local 86* (1971), *Sims v. Sheet Metal Workers International Association* (1973), and *United States v. International Association of Bridge, Structural and Ornamental Iron Workers* (1971).

<sup>15</sup> National Economic Research Association, Inc. 1992. *The Utilization of Minority and Woman-Owned Business Enterprises by Contra Costa County*. 185-186.

<sup>16</sup> BPA Economics, Mason Tillman Associates, and Boasberg and Norton. 1990. *MBE-WBE Disparity Study of the City of San Jose*.



- Of those minority individuals who are admitted to unions, a disproportionately low number are admitted into apprenticeship programs coordinated by unions. Apprenticeship programs are an important means of producing skilled construction laborers, and the reported exclusion of blacks from these programs has severely limited their access to skilled occupations in the construction industry.<sup>17</sup>
- While formal training and apprenticeship programs exist within unions, most training of union members takes place informally through social networking. Nepotism characterizes the unionized sector of construction as it does the non-unionized sector, and this favors a white-dominated status quo.<sup>18</sup>
- Traditionally white unions have been successful in resisting policies designed to increase black participation in training programs. The political strength of unions in resisting affirmative action in construction has hindered the advancement of blacks in the industry.<sup>19</sup>
- Discriminatory practices in employee referral procedures, including apportioning work based on seniority, have precluded minority union members from having the same access to construction work as their white counterparts.<sup>20</sup>
- According to testimony from black union members, even when unions implement meritocratic mechanisms of apportioning employment to laborers, white workers are often allowed to circumvent procedures and receive preference for construction jobs.<sup>21</sup>

However, these historical observations may not be indicative of current dynamics in construction unions. For example, the 2006 Current Population Survey (CPS) provides current data on union membership indicating higher union membership for African Americans in construction.<sup>22</sup> The CPS asked participants, “Are you a member of a labor union or of an employee association similar to a union?” CPS data show union membership for African Americans in construction to be higher (17 percent) than non-Hispanic whites (14 percent) On the other hand, only 7 percent of Hispanic Americans are union members based on these national data.

It is unclear from past studies whether unions help or hinder equal opportunity in construction today, and whether effects in Idaho are different from other parts of the country. Also, Hispanic American representation in the national construction industry has seen great advances despite relatively few Hispanic Americans being union members. There are no definitive results in this Report on the role of unions in disparities in African American or Asian-Pacific American employment in construction.

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<sup>17</sup> Applebaum. 1999. *Construction Workers, U.S.A.*

<sup>18</sup> Ibid. 299. The high percentage of skilled workers reported having a father or relative in the same trade. However, the author suggests this may not be indicative of current trends.

<sup>19</sup> Waldinger and Bailey. 1991. “The Continuing Significance of Race: Racial Conflict and Racial Discrimination in Construction.”

<sup>20</sup> U.S. Department of Justice. 1996. Proposed Reforms to Affirmative Action in Federal Procurement. 61 FR 26042. See *United Steelworkers of America v. Weber* (1979) and *Taylor v. United States Department of Labor* (1982).

<sup>21</sup> Feagin and Imani. 1994. “Racial Barriers to African American Entrepreneurship: An Exploratory Study.”

<sup>22</sup> 2006 Current Population Survey (CPS), U.S. Census Bureau and Bureau of Labor Statistics.

**Engineering industry.** The study team also examined race, ethnic and gender composition of the engineering industry in Idaho. Ninety-four percent of people working in the engineering industry in 2000 were non-Hispanic whites, which is 4 percentage points greater than non-Hispanic whites' overall representation across all industries in the state.

As shown in Figure F-7 on the following page, Hispanic Americans had relatively low representation in the engineering industry—Hispanic Americans were 2 percent of engineering industry workers in 2000, less than one-third of Hispanic American representation in the overall Idaho workforce (6 percent).

In 2000, women were 33 percent of engineering industry workers, up from 20 percent in 1980 but still below overall representation in the Idaho workforce.

Employment patterns seen for Idaho's engineering industry are generally consistent with the nation as a whole, although minorities make up a relatively small percentage of the state's workforce.

**Demographics of relevant engineering occupations.** The study team also examined the relative number of minorities and women among civil, environmental, and mining and geological engineers in Idaho in 2000. Minorities make up 5 to 6 percent of engineers and all workers age 25 and older with a college degree.

About 12 percent of engineers in Idaho are women, far less than women's share of people with college degrees (44 percent). This difference is statistically significant. Figure F-8 presents these results.

**Figure F-7.**  
**Demographics of workers in engineering and all**  
**industries in Idaho and the U.S., 1980 and 2000**

	Engineering		All industries	
	1980	2000	1980	2000
<b>Idaho</b>				
<b>Race/ethnicity</b>				
African American	0.0%	0.5%	0.5%	0.8%
Asian-Pacific American	1.7%	1.8%	0.9%	1.4%
Subcontinent Asian American	0.6%	0.8%	0.0%	0.1%
Hispanic American	0.6%	1.6% **	2.9%	5.7%
Native American	0.6%	1.1%	1.0%	2.0%
Other minority group	0.6%	0.2%	0.1%	0.4%
<b>Total minority</b>	<b>4.1%</b>	<b>6.0%</b>	<b>5.4%</b>	<b>10.3%</b>
Non-Hispanic white	95.9%	94.0% **	94.6%	89.7%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Gender</b>				
Female	20.4% **	33.2% **	45.2%	46.9%
Male	79.7% **	66.8% **	54.8%	53.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<i>n=</i>	<b>172</b>	<b>539</b>	<b>36,153</b>	<b>50,269</b>
<b>United States</b>				
<b>Race/ethnicity</b>				
African American	3.1% **	4.3% **	9.9%	11.4%
Asian-Pacific American	2.7% **	4.7% **	1.4%	3.4%
Subcontinent Asian American	1.0% **	1.3% **	0.2%	0.7%
Hispanic American	3.5% **	5.7% **	5.6%	11.3%
Native American	0.4% **	0.8% **	0.6%	1.2%
Other minority group	0.1%	0.4%	0.1%	0.4%
<b>Total minority</b>	<b>10.9%</b>	<b>17.2%</b>	<b>17.7%</b>	<b>28.4%</b>
Non-Hispanic white	89.2% **	82.8% **	82.3%	71.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Gender</b>				
Female	23.2% **	27.1% **	46.0%	47.9%
Male	76.8% **	72.9% **	54.0%	52.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<i>n=</i>	<b>32,839</b>	<b>66,529</b>	<b>6,338,776</b>	<b>8,295,671</b>

Note: \*\* Denotes that the difference in proportions between the construction and all industry groups for the census year is statistically significant at the 95% confidence level.

The engineering industry sector in 2000 is "architectural, engineering and related services," and in 1980 is "engineering, architectural and surveying services." Though closely related, the groups are not exactly comparable.

Source: BBC Research and Consulting from 1980 and 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Figure F-8.**  
**Demographics of engineers and workers 25 and older**  
**with a college degree in Idaho and the U.S., 2000**

Idaho	Engineers	Workers 25+ with a college degree	United States	Engineers	Workers 25+ with a college degree
<b>Race/ethnicity</b>			<b>Race/ethnicity</b>		
African American	0.0%	0.7%	African American	3.9% **	6.6%
Asian-Pacific American	2.0%	1.8%	Asian-Pacific American	6.3% **	5.3%
Subcontinent Asian American	1.2%	0.4%	Subcontinent Asian American	2.6% **	1.7%
Hispanic American	1.9%	1.6%	Hispanic American	4.3%	4.3%
Native American	0.0%	1.0%	Native American	0.7% *	0.6%
Other minority group	0.0%	0.4%	Other minority group	0.4%	0.4%
<b>Total minority</b>	<b>5.1%</b>	<b>5.8%</b>	<b>Total minority</b>	<b>18.3% **</b>	<b>19.0%</b>
Non-Hispanic white	94.9%	94.2%	Non-Hispanic white	81.7% *	81.1%
<b>Gender</b>			<b>Gender</b>		
Female	12.4% **	43.9%	Female	11.8% **	48.9%
Male	87.6% **	56.1%	Male	88.2% **	51.1%
<i>n=</i>	<i>125</i>	<i>9,569</i>	<i>n=</i>	<i>16,342</i>	<i>2,110,878</i>

Note: \* Denotes that the difference in proportions between engineer and workers 25+ with a college degree is statistically significant at the 90% confidence level.

\*\* Denotes that the difference in proportions between engineer and workers 25+ with a college degree is statistically significant at the 95% confidence level.

Source: BBC Research and Consulting from 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extract was obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

## Advancement in Construction

To research opportunities for advancement, the study team examined a number of specific occupations in construction related to transportation construction. Relevant construction trades include:

- Cement masons, concrete finishers, segmental pavers and terrazzo workers, who smooth and finish poured concrete surfaces and work with cement to create sidewalks, curbs, roadways or other surfaces;
- Paving, surfacing and tamping equipment operators, who operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel and dirt;
- Miscellaneous construction equipment operators, who operate motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement;
- Electricians, who install, connect, test and maintain building electrical systems, which also can include lighting, climate control, security and communications;

- Structural and reinforcing iron and metal workers, who place and install iron or steel girders, columns and other structural members to form completed structures or frameworks of buildings, bridges and other structures; and
- Construction laborers, who perform a wide range of physically demanding tasks at building and highway construction sites, such as tunnel and shaft excavation, hazardous waste removal, environmental remediation and demolition.

The above definitions are from the U.S. Bureau of Labor Statistics.<sup>23</sup> The U.S. Bureau of Labor Statistics also describes other trades involved in construction, several of which directly apply to transportation construction:

- Truck drivers;
- Crane and tower operators; and
- Dredge, excavating and loading machine and dragline operators.

The U.S. Bureau of Labor Statistics analyzes first-line supervisors and managers of construction trades and extraction workers. Management personnel are the most likely of any construction occupation to require a college degree.

**Race and ethnic composition of construction trades.** There are large differences in the racial and ethnic makeup of workers in different trades related to highway construction based on the 2000 U.S. Census of Population. Figure F-9 shows the percentage of minorities by occupation working in construction in Idaho in 2000. Overall, 9 percent of the construction workforce were minorities (5 percent Hispanic Americans and 4 percent other minorities). Minorities comprised a relatively large share of the Idaho construction workforce for:

- Construction laborers (14.6 percent);
- Cement masons, concrete finishers and terrazzo workers (16.1 percent);
- Iron and steel workers (21.2 percent); and
- Drivers (12.4 percent).

Two occupations had relatively low representation of minorities:

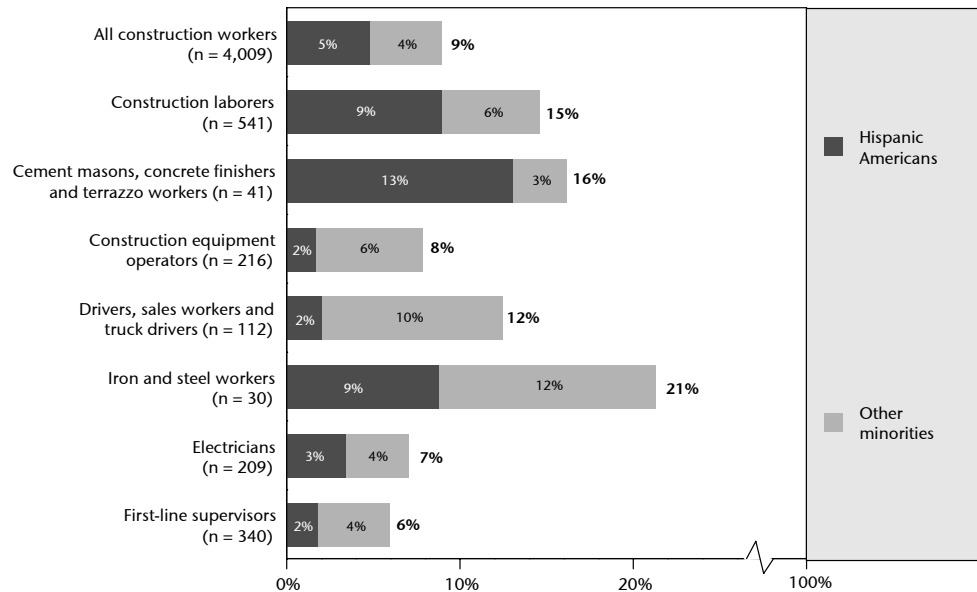
- Construction equipment operators, (7.8 percent); and
- Electricians (7 percent).

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<sup>23</sup> Bureau of Labor Statistics, U.S. Department of Labor. 2001. "Standard Occupational Classification Major Groups." [http://www.bls.gov/soc/soc\\_majo.htm](http://www.bls.gov/soc/soc_majo.htm) (accessed February 15, 2007).

Six percent of first-line supervisors of construction workers were minorities, less than minorities' share of all occupations in construction. Figure F-9 examines these statistics.

**Figure F-9.**  
**Minorities as a percentage of construction workers in selected occupations in Idaho, 2000**



Source: BBC Research and Consulting from 2000 U.S. Census.

Many of the differences for minorities, overall, reflect differences in Hispanic Americans' representation in these occupations. Some of the differences may be explained by other race groups:

- Native Americans are more likely to work as equipment operators and truck drivers (statistically significant at the 90 and 95 percent confidence levels, respectively).
- Asian-Pacific Americans and Native Americans are more likely to work as iron and steel workers, though these differences are not statistically significant.

Age, length of time in the construction industry, education and ability to speak English may explain some of the differences in occupational composition.

**Women in construction trades.** About 11 percent of workers in the Idaho construction industry in 2000 were women. In occupations most closely related to the highway construction industry, however, women made up a smaller proportion of workers than for all construction occupations. Figure F-10 shows the percentage of women by occupation working in the construction industry in Idaho in 2000.

In some occupations, women made up a slightly smaller proportion than in all construction occupations:

- Women made up 7 percent of construction laborers;
- Nine percent of truck drivers were women; and
- Women were 8 percent of all iron and steel workers.

In some occupations, women made up a substantially smaller proportion than in all construction occupations:

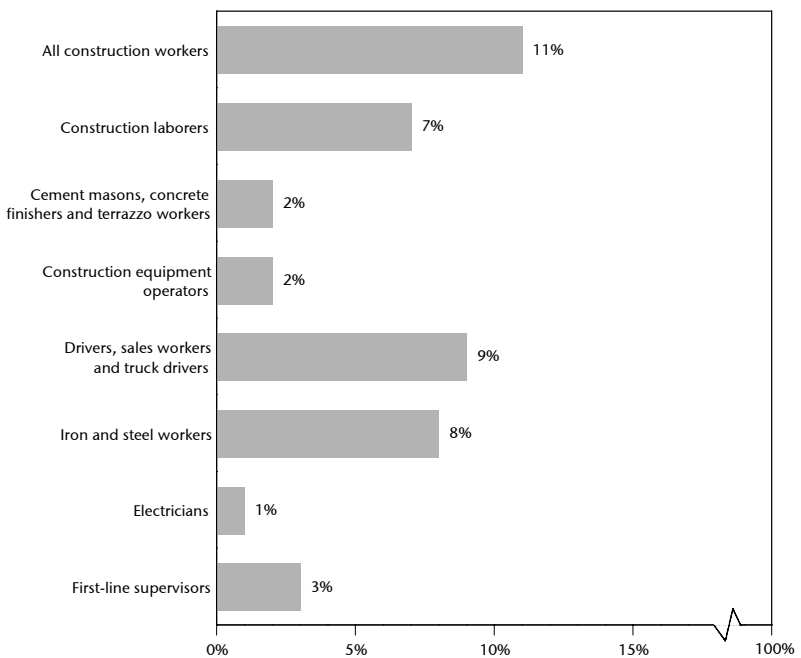
- Among cement masons, concrete finishers and terrazzo workers, fewer than 2 percent of workers were women;
- One and a half percent of construction equipment operators were women; and
- Women were 1 percent of electricians.

Women were 3 percent of first-line supervisors, well below the percentage of women in all construction occupations.

Women were a slightly larger share of workers in construction in 2000 than they were in 1980.

**Figure F-10.**  
**Women as a percentage**  
**of construction**  
**workers in selected**  
**occupations in Idaho,**  
**2000**

Source:  
BBC Research and Consulting from 2000  
U.S. Census.



**Relative share of minorities and women in construction who are managers.** Figures F-9 and F-10 showed the representation of minorities and women among first-line supervisor positions in the Idaho construction industry. The study team also reviewed employment of minorities and women as managers in the industry, a higher position than first-line supervisors. Construction managers, on average, have more education than first-line supervisors (17 percent have at least a bachelor's degree in Idaho compared with 9 percent of first-line supervisors). Figure F-11 shows the proportion of workers in the construction industry in each group that report a “manager” occupation.

Only 3.7 percent of minorities working in construction were managers, compared with 6.7 percent of non-Hispanic whites. This difference is statistically significant.

A similar percentage of men and women working construction were managers. In addition, the proportions of female to male managers in the construction industry are similar to the gender proportions for all construction occupations combined. Women appear to have management opportunities even though they have a relatively low rate of working as supervisors. This was also true in 1980.

**Figure F-11.**  
**Percentage of construction workers who work as a manager in Idaho and the U.S., 1980 and 2000**

Idaho	1980	2000	United States	1980	2000
<b>Race/ethnicity</b>			<b>Race/ethnicity</b>		
African American	0.0%	11.4%	African American	1.4% **	2.9% **
Asian-Pacific American	0.0%	7.9%	Asian-Pacific American	4.2%	7.0%
Subcontinent Asian American	0.0%	0.0%	Subcontinent Asian American	5.1%	10.3% **
Hispanic American	3.9%	0.8%	Hispanic American	1.9% **	2.4% **
Native American	5.0%	5.1%	Native American	2.2% **	4.2% **
Other minority group	0.0%	17.7%	Other minority group	4.7%	5.8% **
All minority groups	3.5%	3.7% **	All minority groups	1.8%	3.0%
Non-Hispanic white	5.4%	6.7%	Non-Hispanic white	4.6%	7.1%
<b>Gender</b>			<b>Gender</b>		
Female	5.1%	5.2%	Female	5.1% **	3.9% **
Male	<u>5.4%</u>	<u>6.6%</u>	Male	<u>4.1%</u>	<u>6.2%</u>
<b>All</b>	<b>5.4%</b>	<b>6.5%</b>	<b>All</b>	<b>4.2%</b>	<b>6.0%</b>

Note: \*\*, \* Denote that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) is statistically significant at the 95% and 90% confidence levels, respectively.

Source: BBC Research and Consulting from 1980, 1990 and 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.



## Business Ownership

Many studies have explored differences in rates of business ownership between minorities and non-minorities in the United States. Though self-employment rates have increased for minorities and women, studies by Waldinger and Aldrich (1990), Fairlie and Meyer (1996), and Fairlie and Robb (2006) indicate that different opportunities for entrepreneurship exist based on gender, ethnicity and race.<sup>24</sup> One study found that the explanatory power of race and ethnicity in self-employment is almost greater in the presence of other factors that also affect self-employment.<sup>25</sup>

Disparities in the rates of business ownership have been one type of evidence used by courts in finding the Federal DBE Program to be valid. Any disparities in business ownership rates may also be important when considering step 2 adjustments in the annual DBE goal.

**Idaho construction industry.** The 5% Public Use Micro-sample Data from the U.S. Census of Population can be utilized to study rates of self-employment in Idaho.

**Business ownership rates in 2000.** Figure F-12 shows the percentage of different groups working in the construction industry who were self-employed in 2000 and in 1980.

In 2000, 26 percent of non-Hispanic whites working in the construction industry in Idaho were self-employed (in incorporated or unincorporated businesses), about the same as the rate for the United States for that year.

Minorities in the Idaho construction industry are less likely to own businesses than non-Hispanic whites:

- Seventeen percent of non-Hispanic minorities were self-employed in 2000; and
- The rate of self-employment for Hispanic Americans is only 12 percent.

These differences in self-employment in Idaho are similar to what is found for the U.S. as a whole.

In 2000, 23 percent of women working in the Idaho construction industry were self-employed, similar to the rate for men (25 percent). In the United States, 17 percent of women in construction were self-employed, compared to 23 percent of men.

It is important to note that only 10 percent of people who owned construction businesses in Idaho had a bachelor's degree.

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<sup>24</sup> See Waldinger, Roger and Howard E. Aldrich. 1990. *Ethnicity and Entrepreneurship*. Annual Review of Sociology. 111-135.; Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793.; Fairlie, Robert W. and Alicia M. Robb. 2006. *Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital*. Forthcoming Journal of Labor Economics.; and Fairlie, Robert W. and Alicia M. Robb. 2006. *Race, Families and Business Success: A Comparison of African-American-, Asian-, and White-Owned Businesses*. Russell Sage Foundation.

<sup>25</sup> Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793.

**Figure F-12.**  
**Percentage of self-employed workers in the construction industry in Idaho and the U.S., 1980 and 2000**

Idaho	1980	2000	United States	1980	2000
<b>Race/ethnicity</b>			<b>Race/ethnicity</b>		
African American	20.0%	24.1%	African American	9.0% **	15.7% **
Asian-Pacific American	50.0%	22.3%	Asian-Pacific American	11.2% **	21.4% **
Subcontinent Asian American	100.0%	0.0%	Subcontinent Asian American	5.9% **	19.6% **
Hispanic American	11.8% *	11.7% **	Hispanic American	10.5% **	12.6% **
Native American	10.0%	14.1% **	Native American	9.5% **	19.0% **
Other minority group	0.0%	30.5%	Other minority group	14.8% *	23.7%
All minority groups	14.0%	14.2% **	All minority groups	9.7% **	14.5% **
Non-Hispanic white	23.5%	25.5%	Non-Hispanic white	19.1%	25.2%
<b>Gender</b>			<b>Gender</b>		
Female	11.1% **	23.0%	Female	9.5% **	17.1% **
Male	24.5%	24.7%	Male	18.5%	22.9%
<b>All individuals</b>	<b>23.2%</b>	<b>24.5%</b>	<b>All individuals</b>	<b>17.7%</b>	<b>22.3%</b>

Note: \*\* Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) is statistically significant at the 95% confidence level.

Source: BBC Research and Consulting from 1980, 1990 and 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

**Changes in business ownership rates in Idaho since 1980.** In Idaho, the proportions of self-employment for minorities and non-minorities did not change from 1980 to 2000. In the United States, self-employment increased for all groups over the same period. The nation had lower rates of self-employment than the state of Idaho in 1980, and similar rates in 2000.

In Idaho, the difference between female and male ownership converged from 1980 to 2000. This pattern is not seen at the national level; self-employment rates for both men and women increased from 1980 to 2000. The business ownership rate in the U.S. for women increased from 9.5 to 17.1 percentage points (still remaining below the rate for men).

**Idaho engineering industry in 2000.** The study team also compared self-employment rates among people working in the Idaho engineering industry.

Men working in the engineering industry in Idaho were three times as likely to own an engineering business as women in 2000. Sample sizes were small when examining rates of business ownership for individual minority groups working in the Idaho engineering industry. Overall, relatively fewer minorities appear to own firms than non-Hispanic whites working in this industry.

**Figure F-13.**  
**Percentage of self-employed workers in the engineering industry in Idaho and the U.S., 1980 and 2000**

Idaho	1980	2000	United States	1980	2000
<b>Race/ethnicity</b>			<b>Race/ethnicity</b>		
All minority groups	0.0%	1.9%	All minority groups	7.3% **	8.4% **
Non-Hispanic, white	17.6%	11.8%	Non-Hispanic white	15.4%	14.7%
<b>Gender</b>			<b>Gender</b>		
Female	2.9%	4.9% **	Female	4.2% **	7.8% **
Male	20.4%	14.3%	Male	17.6%	15.8%
<b>All individuals</b>	<b>16.9%</b>	<b>11.2%</b>	<b>All individuals</b>	<b>14.5%</b>	<b>13.6%</b>

Note: \*\* Denotes that the difference in proportions between the minority and non-Hispanic white groups (or female and male gender groups) is statistically significant at the 95% confidence level.

Source: BBC Research and Consulting from 1980, 1990 and 2000 U.S. Census 5% Public Use Micro-sample data. The raw data extracts were obtained through the IPUMS program of the MN Population Center: <http://usa.ipums.org/usa/>.

### **Potential causes of differences in business ownership rates.**

A number of researchers have examined whether there are disparities in business ownership rates after considering factors such as education and age. A number of studies have found that disparities in business ownership still exist in the presence of such factors:

- Several studies have found that access to financial capital is a strong determinant of business ownership. One consistent finding is the positive relationship between startup capital and business formation, expansion and survival.<sup>26</sup> One study found that housing appreciation measured at the MSA-level is a positive determinant of entry into self-employment.<sup>27</sup> However, unexplained differences still exist when controlling for these factors.<sup>28</sup>
- Education has positive effects on the probability of business ownership. However, findings from multiple studies indicate that minorities are still less likely to own a business than their non-minority counterparts with the same levels of education.<sup>29</sup>

<sup>26</sup> See Lofstrom, Magnus and Chunbei Wang. 2006. *Hispanic Self-Employment: A Dynamic Analysis of Business Ownership*. Working paper, Forschungsinstitut zur Zukunft der Arbeit Institute for the Study of Labor.; and Fairlie, Robert W. and Alicia M. Robb. 2006. *Race, Families and Business Success: A Comparison of African-American-, Asian-, and White-Owned Businesses*. Russell Sage Foundation.

<sup>27</sup> Fairlie, Robert W. and Harry A. Krashinsky. 2006. *Liquidity Constraints, Household Wealth and Entrepreneurship Revisited*.

<sup>28</sup> Lofstrom, Magnus and Chunbei Wang. 2006. *Hispanic Self-Employment: A Dynamic Analysis of Business Ownership*. Working paper, Forschungsinstitut zur Zukunft der Arbeit Institute for the Study of Labor.

<sup>29</sup> See Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793; and Butler, John Sibley and Cedric Herring. 1991. *Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment*. Sociological Perspectives. 79-94..

- Intergenerational links contribute to the likelihood of self-employment. One study found that experience working for a self-employed family member increases the likelihood of self-employment for minority groups.<sup>30</sup>
- Studies have found that time since immigration, or assimilation to American Society, are important determinants of self-employment. However, unexplained differences in minority-business ownership still exist when controlling for these factors.<sup>31</sup>

Appendix H reports findings from multivariate statistical models that explain business ownership in Idaho's construction and engineering industries as a function of race and gender as well as neutral factors, such as age and education. These analyses draw upon the methods and model specification used in past business ownership research and in previous court-approved disparity studies.

## Homeownership and Mortgage Lending

One of the factors researchers examine when studying business formation and success is access to capital. Discrimination in capital markets can prevent minorities and women from acquiring the capital necessary to start or expand a business.<sup>32</sup> BBC begins by studying homeownership and mortgage lending, as home equity is an important source of capital to start and expand businesses.

**Homeownership.** Wealth created through homeownership can be an important source of capital to start or expand a business. Any barriers to homeownership and home equity growth for minorities or women can affect business opportunities for these groups. Similarly, any barriers to accessing the equity in a home through home mortgages can also affect the capital available for new or expanding businesses. In sum:

- A home is a tangible asset that provides borrowing power;<sup>33</sup>
- Wealth that accrues from housing equity and tax savings from home ownership contribute to capital formation;<sup>34</sup>
- Mortgage loans have traditionally been the second largest loan type for small businesses behind lines of credit;<sup>35</sup> and
- Homeownership is associated with an estimated 30 percent reduction in predicted probability of loan denial for small businesses.<sup>36</sup>

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<sup>30</sup> See Fairlie, Robert W. and Alicia M. Robb. 2006. *Race, Families and Business Success: A Comparison of African-American-, Asian-, and White-Owned Businesses*. Russell Sage Foundation; and Fairlie, Robert W. and Alicia M. Robb. 2006. *Why are Black –Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital*. Forthcoming Journal of Labor Economics..

<sup>31</sup> See Fairlie, Robert W. and Bruce D. Meyer. 1996. *Ethnic and Racial Self-Employment Differences and Possible Explanations*. The Journal of Human Resources, Volume 31, Issue 4, 757-793; and Butler, John Sibley and Cedric Herring. 1991. *Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment*. Sociological Perspectives. 79-94.

<sup>32</sup> For an example, see: Coleman, Susan. *Small Firm Sources of Debt Capital: A Comparison by Gender, Race and Ethnicity*. University of Hartford.

<sup>33</sup> Nevin, Allen. 2006. "Homeownership in Nevada: A CBIA Economic Treatise." *Nevada Building Industry Association*. 2.

<sup>34</sup> Jackman, Mary R. and Robert W. Jackman 1980. "Racial Inequalities in Home Ownership." *Social Forces*. 58. 1221-1234.

<sup>35</sup> Berger, Allen N. and Gregory F. Udell. 1998. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance*. 22.

The study team first considered homeownership rates in Idaho and home prices before turning to data on the home mortgage market.

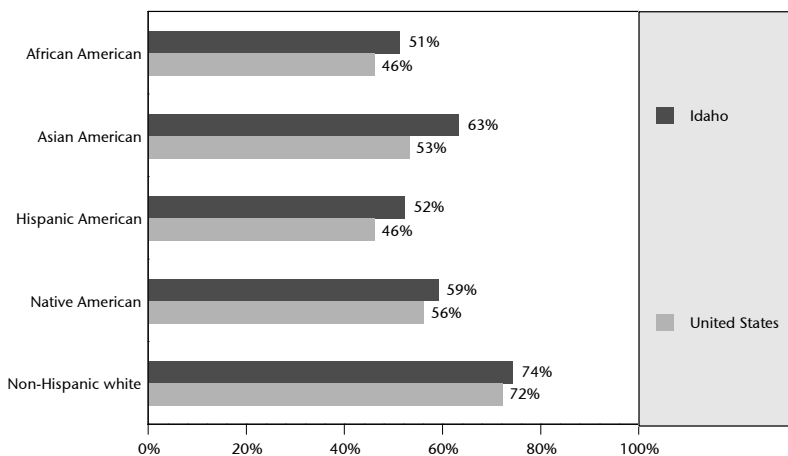
**Homeownership rates.** Homeownership is the first step toward building home equity that can be tapped for other purposes.

Many studies document past discrimination in the housing markets in the United States. For example, the United States has a history of restrictive real estate covenants and property laws affecting the ownership rights of minorities and women.<sup>37</sup> In the past, a woman's participation in home ownership was ancillary to that of her husband and parents.<sup>38</sup>

Figure F-14 illustrates disparities in homeownership between minority groups and non-Hispanic whites in Idaho and the nation in 2000. About 51 percent of African American households were homeowners compared with 74 percent of non-Hispanic whites in the state. Homeownership rates were also particularly low for Hispanic Americans in Idaho. Overall rates of homeownership were higher in Idaho than the nation.

**Figure F-14.**  
**Homeownership**  
**rates in Idaho and the**  
**U.S., 2000**

Source:  
U.S. Census Bureau,  
KnowledgePlex Calculations, an online  
resource maintained by the Fannie Mae  
Foundation.



Different rates of homeownership in part reflect lower incomes for minorities. This may be self-reinforcing, as low wealth puts individuals at a disadvantage in becoming homeowners, which is an effective path to building wealth. One study found statistically significant results indicating that the probability of homeownership is considerably lower for African Americans than it is for comparable non-Hispanic whites throughout the U.S.<sup>39</sup>

<sup>36</sup> Cavalluzzo, Ken and John Wolken. 2005. "Small Business Loan Turndowns, Personal Wealth and Discrimination." *Journal of Business*. 78:2153-2178.

<sup>37</sup> Ladd, Helen F. 1982. "Equal Credit Opportunity: Women and Mortgage Credit." *The American Economic Review*. 72:166-170.

<sup>38</sup> Card, Emily. 1980. "Women, Housing Access, and Mortgage Credit." *Signs*. 5:215-219.

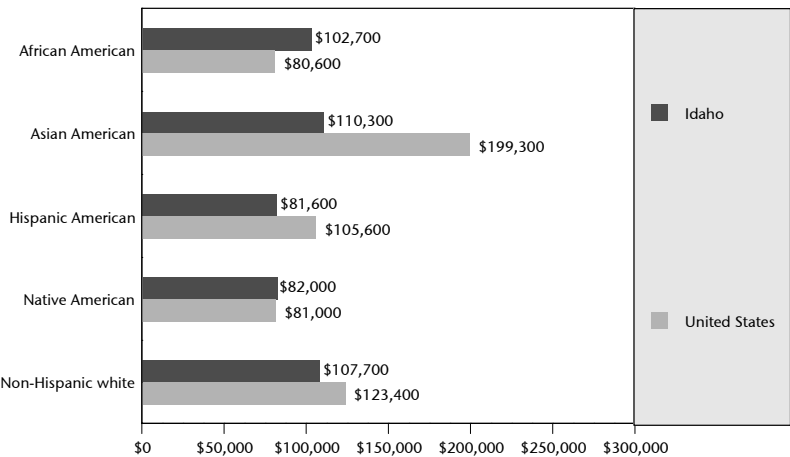
<sup>39</sup> Jackman. 1980. "Racial Inequalities in Home Ownership."

**Home values.** Homeownership and the value of the home is a direct indicator of capital available to form or expand businesses. For example, using microdata from matched Current Population Surveys (1993-2004), one study found that differences in housing appreciation between metropolitan areas affected entry into self-employment. The study indicated that a 10 percent annual increase in housing equity increases the mean probability of entrepreneurship by approximately 20 percent.<sup>40</sup>

U.S. Bureau of the Census data on home values in 2000 allows comparisons of median home values by race and ethnicity. The median home value of non-Hispanic whites in 2000 was \$107,700 in Idaho, substantially above the median value of homes owned by Hispanic Americans and Native Americans, and slightly above homes owned by African Americans.

**Figure F-15.**  
**Median home value, 2000**

Source:  
U.S. Census Bureau, Census 2000 and BBC  
Research & Consulting



**Steering by real estate agents.** A number of researchers have found that discrimination by real estate agents contributes to residential segregation of minorities.<sup>41</sup> One such practice is “steering” of prospective homebuyers toward particular neighborhoods and away from others because of their race or ethnicity (a practice that has been prohibited by law for many decades).

**Mortgage lending.** Minorities may be denied opportunities to own homes, to purchase more expensive homes or to access equity in their homes if they are discriminated against when applying for home mortgages.

<sup>40</sup> Fairlie, Robert W. and Harry A. Krashinsky. 2006. “Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited.” *IZA Discussion Paper*. No. 2201.

<sup>41</sup> Galster, George and Erin Godfrey. 2005. “Racial Steering by Real Estate Agents in the U.S. in 2000.” *Journal of the American Planning Association*. 71:251-268.

A common source of information concerning mortgage lending discrimination is Home Mortgage Disclosure Act (HMDA) data. HMDA data pertain to information about mortgage loan applications for financial institutions, savings banks, credit unions and some mortgage companies.<sup>42</sup> The data contain information about the location, dollar amount, and types of loans made, as well as racial and ethnic information, income, and credit characteristics of all loan applicants. The data are available for home purchases, loan refinances and home improvement loans.

The study team's analysis uses statistics provided by KnowledgePlex on loan denial rates of high-income borrowers. High-income borrowers include households with 120 percent or more of the U.S. Department of Housing and Urban Development (HUD) area median family income.<sup>43</sup> Conventional loans are loans not insured by a government program. Loan denial rates are calculated as a share of mortgage loan applications that have either been denied or originated (this excludes terminations of the application process by the potential borrower).

Data on loan denial rates for mortgages in Idaho show higher denial rates for minority than for non-Hispanic white high-income households, with the exception of Asian American households. Figure F-16 reports loan denial rates for the state for 2005. Among high-income households applying for mortgages, 26 percent of African American applicants had their applications denied compared with 13 percent of non-Hispanic white households. Loan denial rates were also higher for Native Americans and Hispanic Americans.

The patterns of loan denial rates by race and ethnicity in Idaho mirror those of the United States as a whole for 2005.

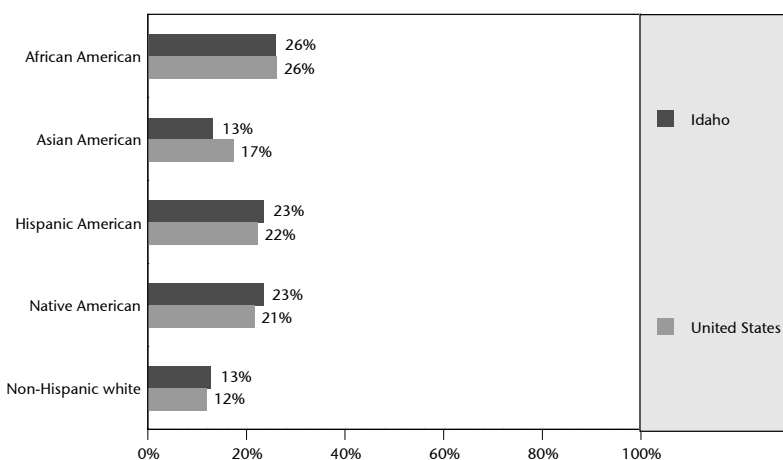
**Figure F-16.**  
**Denial rates of**  
**conventional purchase**  
**loans to high-income**  
**households, 2005**

Note:

High-income borrowers include households with 120% or more than the HUD area median family income.

Source:

FFIEC HMDA data 2005 and KnowledgePlex calculations, an online resource maintained by the Fannie Mae Foundation.



<sup>42</sup> Financial institutions are required to report HMDA data if they have assets of more than \$32 million, have a branch office in a metropolitan area, and originated at least one home purchase or refinance loan in the reporting calendar year. Mortgage companies are required to report HMDA if they are for-profit institutions, had home purchase loan originations exceeding 10 percent of all loan obligations in the past year, are located in a Metropolitan Statistical Area (or originated five or more home purchase loans in an MSA) and either had more than \$10 million in assets or made at least 100 home purchase or refinance loans in the calendar year.

<sup>43</sup> 2005 median family income is \$58,000 for the United States and \$50,850 for Idaho. Based on 2000 census data on family incomes. Data are updated to 2005 using Census P-60 median family income data, Census American Community Survey data on changes in state median family incomes and local Bureau of Labor Statistics Wage data.

A number of national studies have examined disparities in loan denial rates and loan amounts for minorities in the presence of other influences. Examples include the following:

- The Boston Fed Study is one of the most discussed studies of mortgage lending discrimination.<sup>44</sup> It was conducted using the most comprehensive set of credit characteristics ever assembled for a study on mortgage discrimination.<sup>45</sup> The study provided persuasive evidence that lenders in the Boston area discriminated against minorities in 1990.<sup>46</sup>
- Using the Federal Reserve Board's 1983 Survey of Consumer Finances and the 1980 Census of Population and Housing data, logit statistical analysis revealed that minority households were one-third as likely to receive conventional loans as non-Hispanic white households after taking into account financial and demographic controls.<sup>47</sup>
- Findings from a Midwest study indicate a significant relationship between race and both the number and amount of mortgage loans. Data matched on socioeconomic characteristics revealed that African American borrowers across 13 census tracts received significantly less of both compared to their white counterparts.<sup>48</sup>

On the other hand, other studies have found that differences in preferences for FHA versus conventional loans among racial and ethnic groups may partly explain disparities found in conventional loan approvals between minorities and non-minorities.<sup>49</sup> Several studies have found that minority borrowers are far more likely to receive FHA loans than comparable non-Hispanic white borrowers at all income and wealth levels. FHA loans are insured by the government thus protecting the lender, but the borrower can be hurt by higher costs.<sup>50</sup>

**Higher fees and interest rates.** Denial of loans is only one way that minorities could be discriminated against in the home mortgage market; mortgage-lending discrimination can also reveal itself through high fees and interest rates. The housing market provides a unique atmosphere for this type of discrimination through fees associated with various loan types.

One of the fastest growing segments of the home mortgage industry is subprime lending. From 1994 through 2003, subprime mortgage activity grew by 25 percent per year and accounted for \$330 billion of U.S. mortgages in 2003, up from \$35 billion a decade earlier. Subprime loans are marketed

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<sup>44</sup> Munnell, Alicia H., Geoffrey Tootell, Lynn Browne and James McEneaney. 1996. "Mortgage Lending in Boston: Interpreting HMDA Data." *The American Economic Review*. 86: 25-53.

<sup>45</sup> Ladd, Helen F. 1998. "Evidence on Discrimination in Mortgage Lending." *The Journal of Economic Perspectives*. 12:41-62.

<sup>46</sup> Yinger, John. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. New York: Russell Sage Foundation, 71.

<sup>47</sup> Canner, Glenn B., Stuart A. Gabriel and J. Michael Woolley. 1991. "Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets." *Southern Economic Journal*. 58:249-262.

<sup>48</sup> Leahy, Peter J. 1985. "Are Racial Factors Important for the Allocation of Mortgage Money?: A Quasi-Experimental Approach to an Aspect of Discrimination." *American Journal of Economics and Sociology*. 44:185-196.

<sup>49</sup> Canner. 1991. "Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets."

<sup>50</sup> Yinger. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. 80.



and sold to customers with blemished or limited credit histories that would typically not qualify for prime loans.

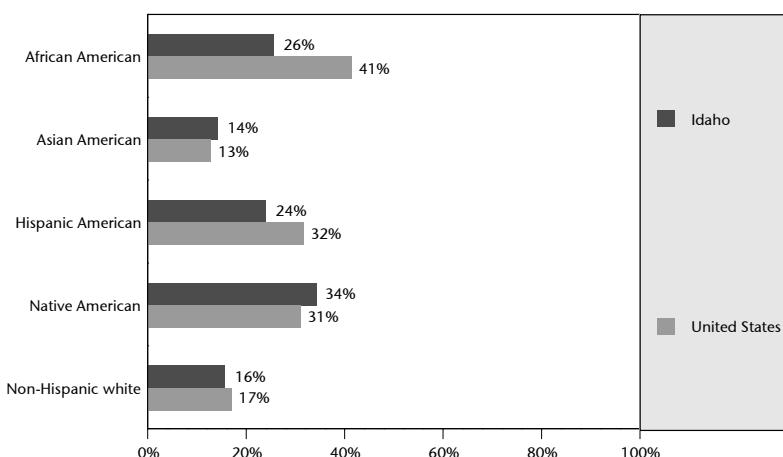
Minorities are more likely to receive a subprime loan, which charge higher interest fees than conventional loans. Financial institutions have been accused of taking advantage of minorities by charging unnecessarily high rates and imposing costs that endanger home ownership. One study found many users of the subprime market are qualified for prime loans.<sup>51</sup>

In Idaho, African American, Native American and Hispanic American borrowers are much more likely to have a subprime loan than non-Hispanic whites. For example, 26 percent of the conventional refinancing loans received by African Americans were from subprime lenders compared with only 16 percent of refinancing loans received by non-Hispanic whites. Asian Americans are, to a smaller degree, less likely than non-Hispanic whites to obtain a mortgage from the subprime market.

**Figure F-17.**  
**Percent of conventional refinancing loans from subprime lenders, 2004**

Source:

FFIEC HMDA data 2005 and KnowledgePlex calculations, an online resource maintained by the Fannie Mae Foundation.



Historically, differences in types of loans awarded to minorities have been attributed to steering by real estate agents, who serve as an information filter between buyers and sellers.<sup>52</sup> Some studies claim that real estate brokers provide different levels of assistance and different information on loans to minorities and non-minorities.<sup>53</sup> This “steering” can shape the perceived availability of loans to minority borrowers.

Home value appraisal is another means of discrimination in mortgage lending. Differences in appraisal values can change the loan-to-value ratio, an indicator of risk for lending institutions. Findings suggest that minorities and women have been subject to the under-appraisal of home values. One study suggests that appraisers lower appraisal values for minorities.<sup>54</sup> Another study found that minorities have higher loan-to-value ratios.<sup>55</sup>

<sup>51</sup> Freddie Mac. 1996, September. “Automated Underwriting: Making Mortgage Lending Simpler and Fairer for America’s Families.” *Freddie Mac*. (Accessed February 5, 2007).

<sup>52</sup> Kantor, Amy C. and John D. Nystuen. 1982. “De Facto Redlining a Geographic View.” *Economic Geography*. 4:309-328.

<sup>53</sup> Yinger. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. 78–79.

<sup>54</sup> Yinger. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. 82.

<sup>55</sup> Tootell, Geoffrey M. B. 1996. “Redlining in Boston: Do Mortgage Lenders Discriminate Against Neighborhoods?” *The Quarterly Journal of Economics*. 111:1049-1079.

Other potential forms of discrimination by lenders are more difficult to analyze and document.<sup>56</sup> Areas include outreach and application procedures (i.e., helping non-minority applications look stronger), loan terms determined by the lender (interest rates, maturity, loan-to-value ratio and loan types), underwriting standards that may disproportionately affect minorities and women, and default and foreclosure options.

Anecdotal evidence suggests that African American home seekers generally must expend more time, effort and resources than non-Hispanic whites for the same end.<sup>57</sup> Minorities and women may also believe they are required to produce greater levels of equity and hard collateral in order to secure debt than their non-minority male counterparts and have fewer options for investment capital.<sup>58</sup>

**Redlining.** Redlining is the term for mortgage lending discrimination to geographic areas associated with high lender risk. These areas are often racially determined, such as African American and mixed race neighborhoods.<sup>59</sup> This practice can perpetuate problems in already poor neighborhoods.<sup>60</sup>

Most quantitative studies have failed to find strong evidence in support of geographic dimensions of lender decisions. Studies in Columbus, Ohio; Boston, Massachusetts; and Houston, Texas found that the racial differences in loan denial had little to do with racial composition of the neighborhood, but rather the individual characteristics of the borrower.<sup>61</sup> Some studies found race of the applicant to be a factor in loan denials, not the racial makeup of the neighborhood.

Studies of redlining have primarily focused on the geographic aspect of lender decisions; however, redlining can also include the practice of restricting credit flows to minority neighborhoods through procedures that are not observable in actual loan decisions. Examples include branch placement, advertising and other pre-application procedures.<sup>62</sup> These practices can deter minorities from starting businesses. Many local businesses rely on the financing of the local bank sector, thus the location of financial institutions important.<sup>63</sup> Redlining practices would deny this capital resource to minorities.

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<sup>56</sup> Yinger. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. 78-81.

<sup>57</sup> Bullard, Robert D. 1990. "Housing Barriers: Trends in the Nation's Fourth-Largest City." *Journal of Black Studies*. 21:4-14.

<sup>58</sup> Darryl E. Greene & Associates, P.C., and Triaxial Management Services, Inc., a Joint Venture. 1994. *DBE/MBE/WBE Predicate Study: Preliminary*. Los Angeles County Metropolitan Transportation Authority.

<sup>59</sup> Holloway, Steven R. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio." *Annals of the Association of American Geographers*. 88:252-276.

<sup>60</sup> Ladd, Helen F. 1998. "Evidence on Discrimination in Mortgage Lending." *The Journal of Economic Perspectives*. 12:41-62.

<sup>61</sup> See Holloway. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio."; Tootell. 1996. "Redlining in Boston: Do Mortgage Lenders Discriminate Against Neighborhoods?"; and Holmes, Andrew and Paul Horvitz. 1994. "Mortgage Redlining: Race, Risk, and Demand." *The Journal of Finance*. 49:81-99.

<sup>62</sup> Yinger, John. 1995. "Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination." Russell Sage Foundation. New York. 78-79.

<sup>63</sup> Holloway. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio."

**Gender discrimination in mortgage lending.** Relatively little information is available on sex-based discrimination in mortgage lending markets. Historically, lending practices overtly discriminated against women by requiring information on marital and childbearing status. Risk associated with women of childbearing age and unmarried women resulted in “income discounting,” limiting the availability of loans to women.<sup>64</sup> The Equal Credit Opportunity Act (ECOA) in 1973 suspended these discriminatory lending practices.

## Access to Business Capital

Barriers to capital markets can have significant outcomes for small business formation and expansion. “Availability of credit” was identified as an issue for businesses in a recent survey conducted by the U.S. Chamber of Commerce. Survey results indicate that minority-owned firms are more likely to experience problems accessing capital than non-Hispanic white-owned firms.

**Figure F-18.**  
**Type of problem facing your business by race and ethnicity, 2005**

	Availability of Credit	Rising Health Care Costs	Excessive Tax Burden	Lack of Qualified Workers	Rising Energy Costs	Rising Costs of Materials	Legal Reform
<b>Race/ethnicity</b>							
African American (n = 55)	45.5 %	30.9 %	45.5 %	21.8 %	29.1 %	52.7 %	10.9 %
Asian-Pacific American (n = 41)	34.1	65.9	51.2	34.1	43.9	31.7	17.1
Hispanic American (n = 50)	52.0	42.0	34.0	20.0	34.0	42.0	10.0
Native American (n = 14)	42.9	50.0	50.0	14.3	28.6	42.9	28.6
All minority groups (n = 177)	44.6	45.8	44.6	25.4	35.0	42.4	14.1
Non-Hispanic white (n = 823)	21.1	55.3	47.3	32.3	35.6	45.3	17.9
<b>All (n = 1,080)</b>	<b>25.3 %</b>	<b>53.8 %</b>	<b>47.0 %</b>	<b>31.0 %</b>	<b>35.5 %</b>	<b>44.7 %</b>	<b>17.2 %</b>

Note: Total percentages may be greater than 100% due to respondents having the option to select multiple choices.

Source: “Access to Capital: What Funding Sources Work for You?” Appendix Tables. U.S. Chamber of Commerce’s Statistics and Research Center, 2005. Available at [http://www.uschamber.com/publications/reports/access\\_to\\_capital.htm](http://www.uschamber.com/publications/reports/access_to_capital.htm). Page 55.

Several studies have found evidence that start-up capital is important for business profits, longevity and other outcomes.<sup>65</sup>

- The amount of start-up capital is positively associated with small business sales and other outcomes.<sup>66</sup>
- Limited access to capital has limited the size of African American-owned businesses.<sup>67</sup>
- Weak financial capital was identified as a significant reason that more African American-owned firms than non-Hispanic white-owned firms were closed over a four-year period.<sup>68</sup>

<sup>64</sup> Card. 1980. “Women, Housing Access, and Mortgage Credit.”

<sup>65</sup> For examples see Fairlie. 2006. “Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited;” and Grown, Caren and Timothy Bates. 1991. “Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies.” Center for Economic Studies, U.S. Bureau of the Census.

<sup>66</sup> See Fairlie, Robert W. and Harry A. Krashinsky. 2006. “Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited;” and Grown. 1991. “Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies.”

<sup>67</sup> Grown. 1991. “Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies.”

Bank loans are one of the largest sources of debt capital for small businesses.<sup>69</sup> Discrimination in the application and approval processes of these loans and other credit resources could be detrimental to the success of minority- and women-owned businesses.

Previous studies have addressed race, ethnic and gender discrimination in capital markets by evaluating:

- Loan denial rates;
- Loan values;
- Interest rates;
- Individual assumptions that loan applications will be rejected;
- Sources of capital; and
- The relationship between start-up capital and business survival.

The study team reviewed literature from past studies to examine these questions. The body of literature contains little information on these issues in Idaho.

**Loan denial rates.** A number of studies have developed regression models to isolate the effects of race and ethnicity from other factors that affect loan approvals. Findings from these studies include:

- Commercial banks are less likely to loan to African American-owned firms than non-Hispanic white-owned firms, after controlling for other factors.<sup>70</sup>
- African American, Hispanic American and Asian American men are more likely to be denied for a loan than non-Hispanic white men. However, African American borrowers are more likely to apply for a loan.<sup>71</sup>
- There are substantial unexplained differences in credit applications, loan denials and interest rates between non-Hispanic white- and African American-owned firms. Competitiveness of lender markets helps explain these disparities.<sup>72</sup>

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<sup>68</sup> Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

<sup>69</sup> Data from the 1998 SSBF indicates that 70 percent of loans to small business are from commercial banks. This result is present across all gender, race and ethnic groups with the exception of African Americans, whose rate of lending from commercial banks is even greater than other minorities. See Blanchard, Lloyd, Bo Zhao and John Yinger. 2005. "Do Credit Market Barriers Exist for Minority and Woman Entrepreneurs." *Center for Policy Research, Syracuse University*.

<sup>70</sup> Cavalluzzo, Ken, Linda Cavalluzzo and John Wolken. 2000. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey." *FEDS Working Paper No. 99-25*

<sup>71</sup> Coleman, Susan. 2002. "Characteristics and Borrowing Behavior of Small, Women-owned Firms: Evidence from the 1998 National Survey of Small Business Finances." *The Journal of Business and Entrepreneurship*. 151-166.

<sup>72</sup> See Cavalluzzo, 2000. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

- The probability of loan denial decreases with greater personal wealth. However, controlling for personal wealth does not resolve the large differences in denial rates across African American-, Hispanic American-, Asian American-, and non-Hispanic white-owned firms. Specifically, information on personal wealth explained some differences for Hispanic- and Asian American-owned firms compared to non-Hispanic whites, but almost none for African Americans.<sup>73</sup>
- Loan denial rates are significantly higher for African American-owned firms than non-Hispanic white-owned firms in the presence of several other factors such as creditworthiness and other characteristics. This result is largely insensitive to econometric specification. Consistent evidence on loan denial rates and other indicators of discrimination in credit markets was not found for other minorities and women.<sup>74</sup>

Using data from the 1998 NSSBF and controlling for other variables, previous studies demonstrated that women are no less likely to apply for or to be approved for loans.<sup>75</sup> In its own analyses, reported in Appendix H, the study team explored the relationships between loan denial and race/gender of firm ownership. These relationships were explored using multivariate statistical models that controlled for a wide variety of neutral factors that explain the likelihood of a firm's loan denial, including the credit and financial help of the owner and of the business and contextual characteristics of the lending environment. Results of this analysis are presented in Figure H-7.

**Loan values.** Beyond loan denial rates, the study team considered the loan values for firms receiving loans. Previous national studies have found that African American-owned firms receive substantially lower loan amounts than their non-Hispanic white counterparts with similar characteristics. Examination of construction companies in the United States revealed that African American-owned firms received smaller loans than firms with otherwise identical traits, increasing the likelihood of firm closure.<sup>76</sup>

**Interest rates.** Studies of interest rates charged for commercial loans control for factors such as individual credit history, firm credit history, and Dun and Bradstreet credit scores.<sup>77</sup> Differences were found in some studies:

- Hispanic-owned firms had significantly higher interest rates in places with less credit market competition.<sup>78</sup>
- Among a sample of firms with no past credit problems, African American-owned firms paid significantly higher interest rates on approved loans.<sup>79</sup>

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<sup>73</sup> Cavalluzzo, Ken and John Wolken. 2002. "Small Business Turndowns, Personal Wealth and Discrimination." *FEDS Working Paper No. 2002-35*.

<sup>74</sup> Blanchflower, David G., Phillip B. Levine and David J. Zimmerman. 2003. "Discrimination in the Small Business Credit Market." *The Review of Economics and Statistics*. 85:930-943.

<sup>75</sup> Coleman. 2002. "Characteristics and Borrowing Behavior of Small, Women-owned Firms: Evidence from the 1998 National Survey of Small Business Finances."

<sup>76</sup> Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

<sup>77</sup> Cavalluzzo. 2000. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

<sup>78</sup> Cavalluzzo. 2000. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

<sup>79</sup> Blanchflower. 2003. "Discrimination in the Small Business Credit Market."

**Individual assumptions that loan applications will be rejected.** Fear of loan denial is a barrier to capital markets because it prevents small businesses from applying for loans and thus can help explain differences in business outcomes. In addition, it provides insight into minority business owners' perceptions of the small business lending market.

The body of literature identifies multiple factors that influence the decision to apply for a loan, such as firm size, firm age, owner age and educational attainment. Controlling for these factors can help to determine whether race and ethnicity explain fear of loan denial. Findings indicate:

- African American- and Hispanic American-owners are significantly less likely to apply for loans.<sup>80</sup>
- After controlling for educational attainment, there were no significant differences in loan application rates between non-Hispanic white, African American, Hispanic and Asian American men.<sup>81</sup>
- African American-owned firms are more likely than other firms to report being seriously concerned with credit markets and are less likely to apply for credit in fear of denial.<sup>82</sup>

### **Availability Survey Preliminary Results for Barriers to Doing Business in the Marketplace and with ITD**

The 2007 Availability Survey included two open-ended questions:

- Finally, we are giving business owners and managers an opportunity to offer general insights on your industry, including how difficult it is to start or expand your business and to [bid / propose] on and win work. As you are thinking, be sure to consider any issues related to ITD and local government projects in Idaho. What thoughts do you have to offer on these topics?
- ITD is looking for ways to improve its contracting practices and those of its prime [contractors / consultants] to ensure that they are open and fair. Do you have any thoughts or suggestions?

Because the types of responses to these questions were so similar, BBC combined the responses when examining results. Multiple responses were coded.<sup>83</sup>

The questions asked were open-ended by design, which affects the number of comments concerning each potential barrier. If the study team had specifically asked about each potential barrier, more firms would have identified the issue area as a barrier for their firm. The strength of this methodology is that respondents identified areas of problems unprompted by the interviewers. It shows the degree to which certain barriers were “top of mind” for business owners and managers.

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<sup>80</sup> Cavalluzzo, 2000. “Competition, Small Business Financing and Discrimination: Evidence from a New Survey.”

<sup>81</sup> Coleman, Susan. 2004. “Access to Debt Capital for Small Women- and Minority-Owned Firms: Does Educational Attainment Have an Impact?” *Journal of Developmental Entrepreneurship*. 9:127-144.

<sup>82</sup> Blanchflower et al., 2003. *Discrimination in the Small Business Credit Market*.

<sup>83</sup> For example, if a firm owner responded to the first question by indicating that slow payment and contract specifications were barriers, BBC tracked both responses. If the firm owner answered the second question with further elaboration on slow payment, and then added a comment about difficulty finding information about contract opportunities, the information on bidding comment was added to the combined responses for that firm.

About 33 percent of all firms surveyed responded to the open-ended questions. Due to the small number of minority responses, minority-owned businesses are analyzed as a group and are not further categorized by race or ethnicity.

**Access to capital.** Unprompted, only about 1 percent of construction firms mentioned access to capital as a difficulty in starting or expanding their business or in working with ITD. Women-owned construction firms responding to the survey were less likely than other construction firms to mention this issue. In the engineering industry, less than 1 percent of majority-owned firms identified access to capital as a barrier. No women- or minority-owned engineering firms mentioned this issue. Comments regarding access to capital were generally related to the high costs associated with starting a business.

**Bonding.** Access to bonding and bonding requirements were brought up by 1 percent of transportation construction firms. Only a few transportation engineering firms mentioned this issue. Minority-owned construction firms were more likely to mention bonding as a barrier than any other firms. Most comments related to bonding were focused on general difficulties in obtaining bonds necessary for bidding. Some respondents feel that ITD's bonding requirements are excessive.

**Insurance.** Overall, less than 1 percent of transportation construction and engineering firms identified the costs associated with insurance as a barrier to doing business. Minority-owned construction firms were slightly more likely than other firms to mention insurance costs. Survey respondents who brought up this issue were primarily concerned with the costs of meeting current requirements.

One respondent specifically commented on difficulties for small businesses, stating: "Insurance requirements for small businesses are prohibitive." Another said "... insurance (costs) make it difficult to stay and grow our business."

**Difficult industry regulations.** About 1 percent of transportation construction firms brought up industry regulations as an issue. Less than 1 percent of engineering firms stated this was a barrier to doing business or in working with ITD. No minority-owned firms or women-owned engineering firms mentioned this difficulty. Respondents primarily cited issues with public licensing as well as permitting and environmental regulations.

**Difficult to find qualified staff.** Overall, about 2 percent of construction and engineering firms mentioned difficulties in finding qualified staff as a barrier to doing business. Minority-owned engineering firms were much more likely than any other firms to mention this issue.

Comments related to this difficulty included a lack of qualified individuals, including engineers, surveyors and other specialized labor, as well as general industry competitiveness. One minority business owner stated, "It's hard to get help. The (construction) industry has a lack of technically trained individuals." An engineering industry representative said, it's a "highly competitive market for talent, it's hard to find qualified people."

**Ability to obtain subcontracts from primes and partner with firms.** Very few construction industry respondents stated that it was difficult to get subcontracts from primes or partner with other firms. Unprompted, about 1 percent of transportation engineering firms indicated this was a problem; however, 6 percent of minority-owned transportation engineering firms mentioned this difficulty.

Some respondents indicated that larger firms do not provide smaller companies opportunities for work. One respondent stated that it is “very difficult for small trucking firms. Large contractors have their own trucks and don’t want to hire small truckers.” Another stated “I am small and relying on bigger companies to find work; I am only hired when they are overwhelmed and when they catch up I am terminated.”

Other comments included: “it would be nice if it were a little easier to partner with other businesses” and “It’s difficult to get sub-consultant jobs as a non-minority- and non-woman-owned firm.” Some respondents suggested ITD facilitate better partnering by providing larger firms with a list of available subcontractors.

**Competitive industry and high operating costs.** Industry competitiveness and high operating costs were brought up by 7 percent of transportation construction firms as significant barriers to doing business. About 6 percent of transportation engineering firms mentioned this issue. Minority-owned construction firms and women-owned engineering firms were more likely than other firms to identify industry competitiveness as a barrier.

The majority of comments regarding industry competitiveness were related to the high cost of doing business, general market saturation and difficulties breaking into the industry. One respondent stated, “The trucking industry has changed. The price of freight has gone down and the price of fuel has gone up. It’s hard to break even.” Another said, “It’s fairly difficult to expand in the business due the fact that it is very much relationship-based.” More general comments such as “competition in the industry is fierce” and “it is difficult to get your foot in door in this industry” were common. Respondents also frequently cited rising fuel costs.

Some small businesses noted how difficult it is to compete with larger firms. “When you’re small and have to hire help, keeping up with bigger and more established businesses is difficult” said one small business respondent. “We’re a small firm and generally can’t compete with the big dogs,” said another.

A few respondents commented on the difficulty of competing for ITD work as a non-local firm: “It is very difficult to expand in the Idaho market without local connections and consultants.” One respondent stated, “it’s hard to win work without local representation.”

**Slow pay.** Very few firms mentioned slow pay as a problem for their business. Overall, about 1 percent of transportation construction and engineering firms mentioned this issue. Three percent of women- and minority-owned engineering firms and 3 percent of minority-owned construction firms indicated slow pay as a barrier to doing business.



Comments were specific to ITD as well as prime contractors. One respondent stated, “ITD needs to reimburse companies faster.” “ITD does not enforce prompt payment clauses,” said another. One women-owned business representative stated, “It’s often extremely difficult to work as only a subcontractor because the prime contractors do not pay on time or reliably.”

**Difficult specifications and complex contract language.** Less than one percent of all firms surveyed indicated that poor specifications and complex contract language posed a barrier to doing business and working with ITD. Minority-owned firms were more likely than any other firms to bring up this issue.

In general, business-owners who mentioned difficult specifications or complex contract language feel that “ITD needs to identify its standards better.” One firm stated, “the rapid changing of ITD specifications and requirements is hard; it changes sometimes four times a year and it’s hard to keep up.”

**Prevailing wage and union requirements.** Less than 1 percent of transportation construction firms and no transportation engineering firms identified prevailing wage rate and union requirements as a barrier. Respondents who brought up this issue generally indicated that the prevailing wage rate, Davis Bacon Act and union requirements make it difficult to work for ITD and remain profitable.

**Paperwork and cumbersome processes.** Of the transportation construction firms surveyed, 2 percent identified paperwork and other cumbersome processes as a barrier. About 5 percent of transportation engineering firms indicated this was a problem. In both industries, minority-owned firms were much more likely to bring up this issue than any other firms.

Respondents who view cumbersome processes as a barrier referenced excessive paperwork and lengthy approval process involved in working with ITD. “There’s too much paperwork. We avoid trying to get work from ITD because of it,” stated one respondent. Another said, “the ratio of paperwork required to the money earned when working with ITD isn’t worth it a lot of the time.”

Some respondents feel that ITD processes can be slow: “ITD is slow--it can be years between announcing and awarding work, which is hard on businesses.” One respondent stated, “The response to the contract is time intensive. It can be simplified and improved.”

**Excessive qualifications.** A few transportation construction firms feel that excessive qualifications create a barrier to doing business with ITD. Unprompted, less than 1 percent of construction firms and 2 percent of engineering firms brought up this issue. Minority-owned construction firms were more likely than all other firms to state this as an issue.

In addition to insurance and bonding requirements, past experience was the most referenced qualification in this category. Specific comments included “firms need to have experience to get jobs, but need to do jobs to get experience. It’s a Catch-22.” and “it’s difficult to get contracts because past experiences is needed.” One respondent noted the difficult requirements associated with increasing a firm’s public work license.

Some respondents specifically commented on difficulties for small businesses: “I think that for a lot of small companies meeting the technical qualifications is difficult, said one respondent. “Small firms often get passed over by ITD despite their wealth of qualifications. The contracting process, even for small jobs, requires experience with much bigger jobs.”

Some respondents stated that ITD’s financial requirements made it difficult to obtain work. “ITD has stricter financial requirements than many other governmental organizations,” said one respondent. On why his/her firm no longer works for ITD, one small business owner stated, “the reason I stopped was for sole proprietorships they require impossible accounting certification. The reason it’s impossible is because I have no wage, and they want me to come up with a wage range, which as a small business owner, I cannot do.”

**Difficulties bidding and obtaining information.** About 8 percent of transportation construction firms and 9 percent of engineering firms commented on the difficulty in obtaining information on bidding opportunities and bidding on ITD projects. Minority-owned engineering firms were much more likely than any other firms to identify this as a problem. In the construction industry, majority-owned firms were the most likely to bring up this issue.

The majority of respondents in this category commented on difficulties in obtaining information on upcoming projects and how to bid. Common responses included “It’s hard to find out when bids are open or available to be made”; and “I don’t really know where to go or how the bidding processes work.” One respondent stated “I believe ITD needs a better way to communicate new projects with potential bidders, so bidders have more time to scope out projects and create informed bids.”

Some respondents commented on the bidding process itself. “It’s been difficult for us to get work with ITD because the system is too confusing. Last year, we made three trips to Boise to figure out the system, but that’s costly.” One business owner stated, “they [ITD] need to provide additional lead time for procurement.” Another respondent stated that the online bidding process is “too confusing.”

Many respondents had suggestions for ITD to enhance outreach and simplify processes. Several suggested that notification of upcoming projects should be sent to all available firms via email or direct mail. Others said ITD “need[s] a better website to announce jobs coming up” and “ITD should make plans for various projects available free online.” One respondent suggested “seminars to explain the bidding process.” Many indicated they would like to be put on a list to be notified of upcoming projects.

**Barriers for small firms.** Five and 7 percent of transportation construction and engineering firms, respectively, identified barriers for small firms in the local marketplace and in working with ITD. In both industries, minority-owned firms were much more likely to bring this up as an issue.

Comments related to difficulties for small firms included a general inability to compete with larger businesses. Respondents in this category attributed difficulties to lower overhead, better marketing and established relationships and general accessibility to resources associated with larger firms. Many respondents stated that it is hard to “get their foot in the door as a small business.” Common responses included “we are struggling to compete with larger firms” and “It’s tough, there are so many big outfits that tend to outbid us.” One respondent stated, “The industry is more and more about big business rather than smaller firms. It takes more money now to get into the business.”

Some comments were specific to ITD and their tendency to award only large contracts. For example, “ITD seems to prefer to have large firms as prime contractors, it’s discouraging for a small company.” One respondent stated, “a lot of ‘Mom and Pop’ type businesses get overlooked, because we don’t know the right people”. Other common responses were “it is difficult to contract with ITD, because its process is made for much larger construction contracts,” and “Most projects are set big , small companies can’t bid.” One respondent stated, “If you aren’t women-owned or minority-owned, you’re competing with large firms with little government help. ITD doesn’t have enough personnel to divide up work, so they give it to huge firms instead of small local businesses.”

**Award based on factors others than cost.** About 1 percent of transportation construction firms and 2 percent of transportation engineering firms mentioned that awarding contracts based on the lowest bid makes it difficult to do business or work with ITD. Women-owned engineering firms were more likely than any other firms to bring up this issue. In the construction industry, only majority-owned firms stated this as a problem.

Respondents who brought this up as an issue feel that awards should be based more on qualifications rather than simply the lowest bid. In reference to the low bid rule, one respondent said “The state chooses to work with a contractor by the cost and it affects the quality of work.” Another stated, “ITD should use qualification-based selection.”

**Other unfair practices and difficulties working with ITD.** A relatively larger number of firms identified other unfair practices and difficulties working with ITD as a barrier to doing business. Unprompted, about 6 percent of transportation construction firms and 9 percent of transportation engineering firms mentioned this as an issue. Across both industries, minority-owned firms were much more likely than any other firms to identify unfair practices and other difficulties.

Many of the unfair practices identified were related to the tendency of ITD and large contractors to award projects to the same firms. Common responses included: “ITD has a tendency to offer preference to older companies,” and “we are finding it difficult to break into the ‘good ole boy’ network of contractors in Idaho.”

Other comments focused on difficulties for DBE firms including, “DBE goals should be set higher, it’s hard for smaller DBE firms to get work,” and “As a women-owned, it is very difficult. (We) have been turned down even with the lowest bid. One respondent stated, “ITD advertises for DBE firms, but (I’m) not sure DBE firms actually get used.”

Many respondents feel that DBE firms are given an unfair advantage. One respondent stated, “I think the Caucasian male misses out on bidding opportunities available—they discriminate against the white male.” Another said, its “difficult because I’m not a minority- or women-owned business.”

Some respondents find it difficult to work with ITD and ITD employees. One business owner stated, “It’s hard to work for ITD because the inspectors don’t know what they’re doing.” Another said, “Working with state employees is difficult—there’s friction.” One respondent thinks “ITD should follow their own rules.”

**Difficult to certify as a DBE.** Overall, few transportation construction and engineering firms stated it was difficult to certify as DBE. No minority-owned firms mentioned this issue. Difficulties in being certified included excessive paperwork and unfair practices.

**No problems.** Four and 5 percent of transportation construction and engineering firms stated they have no problems doing business in the local marketplace or working with ITD. Women-owned construction firms and majority-owned engineering firms were more likely to say they have no problems than any other firms.

**Other comments.** Overall, 4 to 5 percent of surveyed construction and engineering firms had other comments related to doing business in the local marketplace and working with ITD, respectively. These comments have no specific patterns.

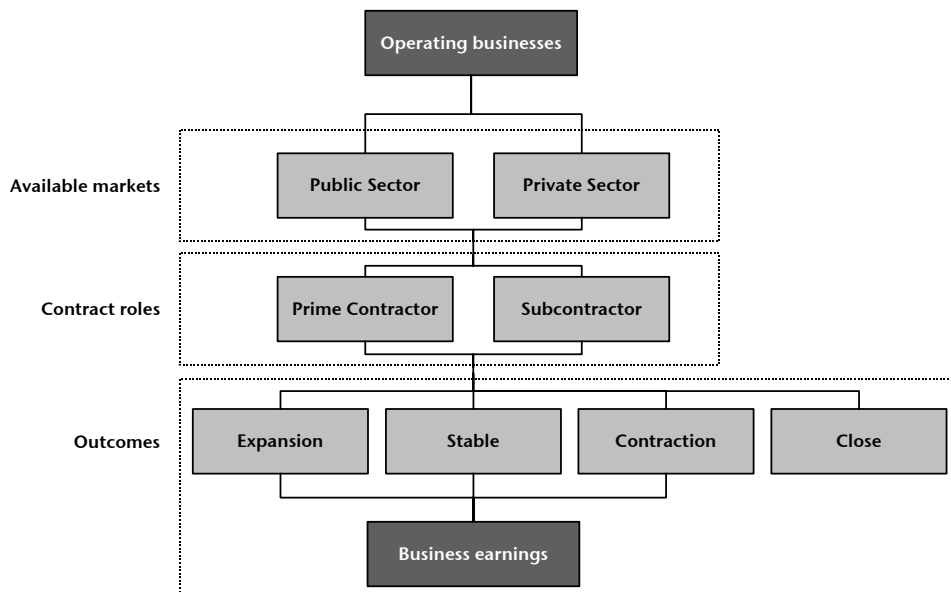
### Relative Success of MBE/WBEs

BBC also examined the relative success of MBEs and WBEs once they are operating. The study team examined whether business opportunities and markets for minority- and women-owned transportation construction and engineering firms differ from majority-owned firms. The study team then researched outcomes for MBEs, WBEs and majority-owned businesses, including:

- Businesses discontinuing operations;
- Businesses expanding or contracting;
- Business earnings; and
- Size distribution of gross revenue.

This analysis examines whether some of the patterns found by Congress concerning disparities in outcomes for minority- and women-owned businesses are found in Idaho. Figure F-19 provides a framework for the analysis.

**Figure F-19.**  
**Business success**



Source: BBC Research and Consulting, 2007.

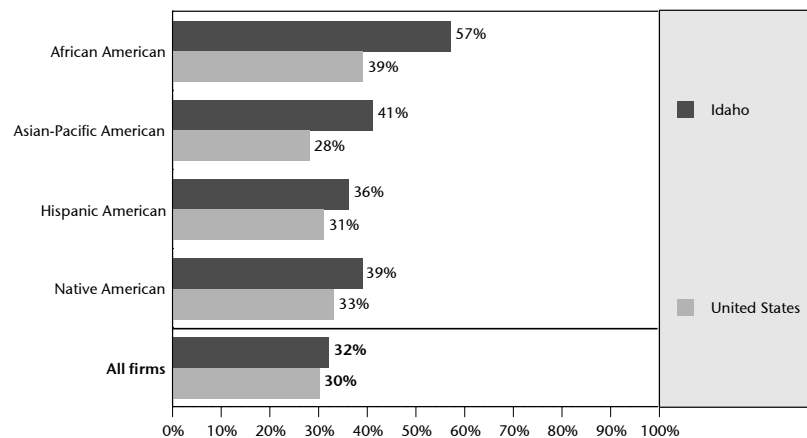
## Businesses Discontinuing Operations

**Rates of business closures in Idaho.** BBC explored data sources that might indicate whether MBEs were more likely to discontinue operations than other firms. Using special data from the 1997 Survey of Minority- and Women-Owned Business Enterprises (SMOBE) provided by the U.S. Census Bureau, the U.S. Small Business Administration reports information regarding employer firm survival rates of minority business groups by state between 1997 and 2001 across all industrial sectors (“employer firms” are firms with paid employees beyond the business owner and family members).

Figure F-20 shows that minority firms in Idaho have much higher rates of closure than all firms throughout the state. Black-owned firms were particularly prone to closure in Idaho with 57 percent of black-owned firms closing over the 4-year period versus 32 percent of all firms. Asian American-owned firms also experienced a higher closure rate at 41 versus 32 percent. Rates of closure among minority firms are higher in Idaho than they are nationwide, and they are substantially higher for African American- and Asian American-owned firms.

**Figure F-20.**  
**Idaho vs. National**  
**Minority Employer**  
**Firm Closure Rates,**  
**1997-2001**

Source:  
U.S. Census Bureau and Lowrey, Ying.  
“Dynamics of Minority-Owned  
Employer Establishments, 1997-2001.”  
U.S. Small Business Administration  
Office of Advocacy.

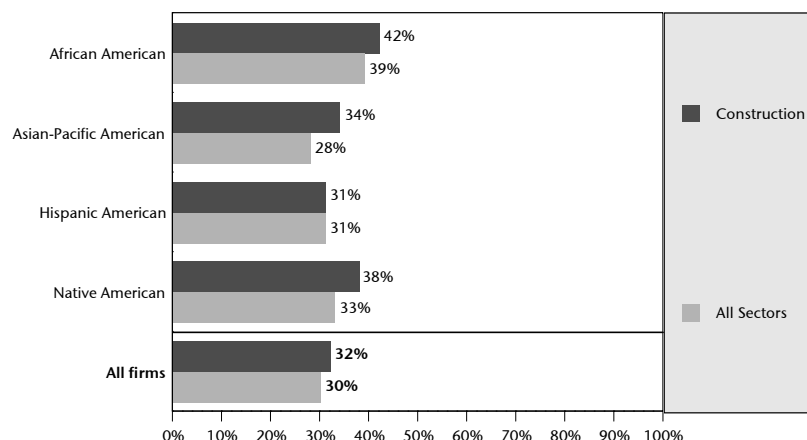


**Rates of business closures for construction firms.** The data shown in Figure F-20 relate to all firms in Idaho, however the patterns indicated for closure rates by minority group appear to extend to construction firms based on national data. Figure F-21 demonstrates that the higher closure rate for African American-owned firms was also true when only examining construction firms. Closure rates also appeared to be higher for construction firms owned by Native Americans and for Asian Americans. (No statistics were available for engineering firms.)

**Figure F-21.**  
**Comparative National**  
**Rates of Firm Closure,**  
**1997-2001**

Note:  
All statistics were significant  
at the 0.05 level.

Source:  
U.S. Census Bureau 1997 Survey of  
Minority- and Women-Owned Business  
Enterprises (SMOBE) and U.S. Small  
Business Administration.



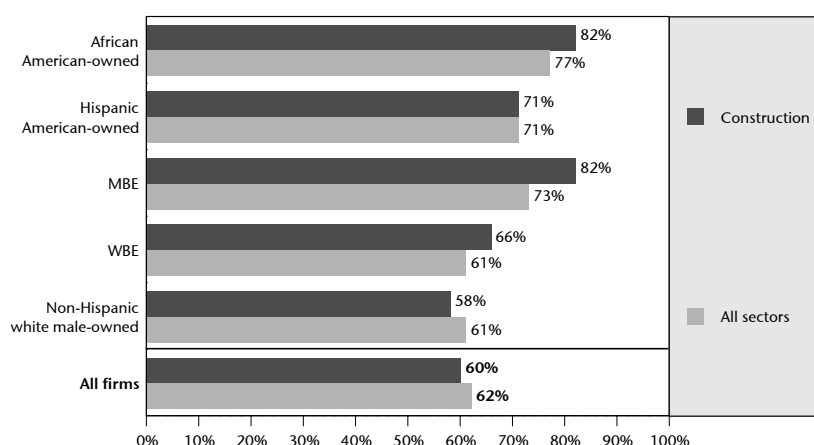
**Successful versus unsuccessful closures.** Not all firm closures can be interpreted as indicating “failure” of the business. Reasons that a firm may close “successfully” include retirement or the emergence of a more profitable business alternative.

To date, the 1992 Characteristics of Business Owners Survey is the only dataset released by the Census Bureau that allows classification of firm closures into successful and unsuccessful subsets.<sup>84</sup> The CBO survey asked owners of businesses that had closed since 1992 the question “Which item below describes the status of this business at the time the decision was made to cease operations?” Only the responses “successful” and “unsuccessful” were permitted.

A firm reported to be unsuccessful at time of closure is understood to be a firm failure. Figure F-22 shows comparative data for the proportion of firms closing between 1992 and 1996 that failed.<sup>85</sup>

**Figure F-22.**  
**Comparative National**  
**“Failure” Rates of**  
**Closed Firms,**  
**1992-1996**

Source:  
U.S. Census Bureau, 1996 Characteristics  
of Business Owners Survey (CBO).



According to the CBO, closed African American-owned construction firms were the most likely to report “unsuccessful” when asked about the status of the business when it closed. About 82 percent of the African Americans who had owned and closed construction firms reported an unsuccessful business (77 percent for all African American business owners who had closed businesses). Only 58 percent of non-minority men who had owned construction businesses said that their business was unsuccessful at time of closing, a substantial disparity. The differences in status of a construction firm at closing were also large between other minorities (Asian Americans and Native Americans) and non-minority men.

<sup>84</sup> Data from the 1997 and 2002 Economic Census and CBOs do not include statistics on successful and unsuccessful closure. To date, the 1992 CBO is the only U.S. Census data set that does.

<sup>85</sup> All CBO data should be interpreted with caution due to a non-response bias. Firms that did not respond to the survey cannot be assumed to have the same characteristics of ones that did. This report does not include CBO data on firm closure because firms not responding to the survey were found to be much more likely to have closed than ones that did. This study does include CBO data on firm success because there is no compelling reason to believe that closed firms responding to the survey would have reported different rates of success/failure than those closed firms that did not respond to the survey. See Headd, Brian. U.S. Small Business Administration, Office of Advocacy. 2000. “Business Success: Factors leading to surviving and closing successfully.”

Differences in the successful versus unsuccessful closing of construction firms were only somewhat narrower for other groups:

- About 71 percent of Hispanic Americans who had owned and closed construction businesses reported the business to be unsuccessful at time of closing, higher than the results for non-minority men.
- About 66 percent of women who had owned and closed construction firms reported the business to be unsuccessful, somewhat higher than the 58 percent for non-minority men.

Combining data on firm closure in Idaho with reported success of closed firms nationwide suggests that minority firms are more prone to “failure” than their non-minority counterparts. Data indicate that minority firms are more likely to close than all firms in Idaho, and nationwide data suggests that they are more likely to do so unsuccessfully. This is especially true for African American-owned firms, which had by far the highest rates of firm closure in Idaho at 57 percent, and the highest rate of “failure” among closed businesses nationwide.

**Reasons for differences in failure rates.** Several researchers have offered explanations for higher rates of successful closure among non-DBE firms and higher rates of failure among DBE firms nationwide:

- Minority business failure is largely due to barriers in access to capital. A regression analysis identifies initial capitalization as the most significant factor in determining firm viability. Because African American-owned businesses secure smaller amounts of debt equity in the form of loans, they are more inclined to fail. Difficulty in accessing capital is found to be particularly acute for minority firms in the construction industry.<sup>86</sup>
- Prior work experience in a family member’s business and prior work experience in a similar business are found to be strong determinants of business viability. Because African American business owners are much less likely to have family business experience and/or similar business experience, their firms are less likely to survive.<sup>87</sup>
- Level of education is found to be a strong determinant in business survival. It explains a significant portion of the gap in firm closure rates between African Americans and non-minority firms.<sup>88</sup>
- Non-minority business owners have the opportunity to pursue a much wider array of business activities, which increases their likelihood of closing successful businesses to pursue more profitable business alternatives. Minority business owners, especially those who do not speak English, have greatly limited employment options and are less likely to close a successful business.<sup>89</sup>
- The high rate of survival of Asian American-owned firms compared to other minority-owned firms is determined by their possession of greater initial capital and the generally higher levels of education of Asian Americans.<sup>90</sup>

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<sup>86</sup> Bates, Timothy and Grown, Caren, 1991. “Commercial Lending Practices and the Development of Black-Owned Construction Companies.” Center for Economic Studies, U.S. Census Bureau.

<sup>87</sup> Robb, A. and Fairlie, R. “Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital.” 2006

<sup>88</sup> Ibid.

<sup>89</sup> Bates, Timothy. 2002. “Analysis of Young Small Firms That Have Closed: Delineating Successful from Unsuccessful Closures.” Center for Economic Studies, U.S. Census Bureau.

<sup>90</sup> Bates, Timothy. 1993. “Determinants of Survival and Profitability Among Asian Immigrant-Owned Small Businesses.” Center for Economic Studies, U.S. Census Bureau.

**Summary.** Available data suggest that closure rates for minority-owned firms are higher than other firms. Furthermore, national data indicates that closure is more likely to be a result of business failure for minority firms than for non-minority firms. African American business owners in Idaho are much more likely to close their businesses, and those businesses are more likely to be unsuccessful.

**Comparative Rates of Expansion and Contraction**

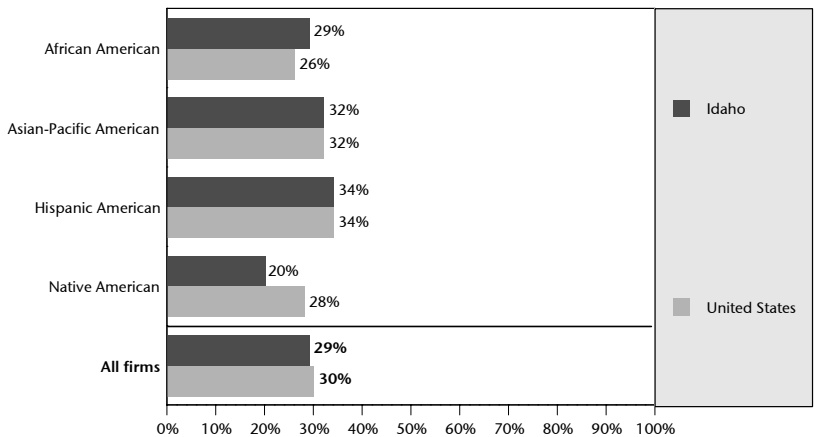
The comparative rates of expansion and contraction of MBE and non-MBE firms is also a useful indicator of the relative success of minority-owned businesses.

**Expansion.** The U.S. Small Business Administration’s 2005 study of minority business dynamics from 1997-2001 also examines rates of expansion and contraction for minority-owned firms in Idaho that had paid employees at the starting time period for the analysis (“employer firms”).

Figure F-23 compares the percentage of firms that increased their total employment between 1997 and 2001 in Idaho and nationwide. Except for Native American-owned firms, minority-owned firms fared well in comparison to all firms, experiencing similar or higher rates of business expansion. The rate of business expansion was highest among Hispanic-owned firms both in Idaho and nationwide.

**Figure F-23.**  
**Percentage of employer firms that expanded employment, 1997-2001, Idaho and the U.S.**

Source:  
U.S. Census Bureau 1997 Survey of Minority- and Women-Owned Business Enterprises (SMOBE) and U.S. Small Business Administration.

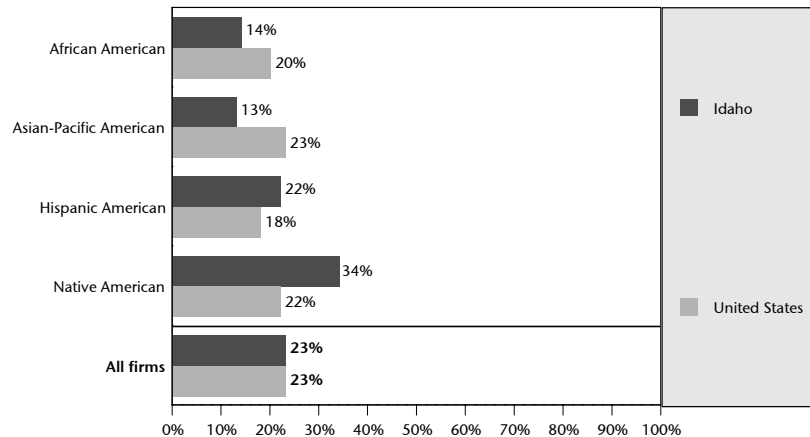


**Contraction.** Figure F-24 on the following page examines the percentage of firms that reduced their employment between 1997 and 2001. As with the analysis of expanding firms, these data track activity of employer firms beginning in 1997. Contraction data from the SBA study should be interpreted with caution as it tracks firms decreasing in employment but not those that discontinued businesses entirely.



**Figure F-24.**  
**Percentage of**  
**firms that contracted**  
**employment,**  
**1997-2001, Idaho**  
**and the U.S.**

Source:  
 U.S. Census Bureau 1997 Survey  
 of Minority- and Women-Owned Business  
 Enterprises (SMOBE) and U.S. Small  
 Business Administration.

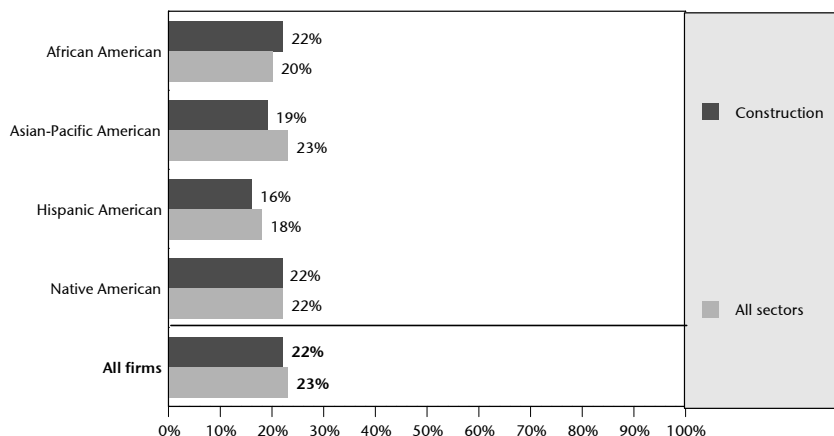


According to the SBA study, minority firms (except for Native American-owned firms) were less likely to decrease employment than all firms. African American- and Asian/Pacific Islander-owned firms were much less likely to decrease employment; however, they are much more likely to have discontinued business altogether.

The above results pertain to all firms in Idaho. The SBA study did not report results for the Idaho construction industry. However, minority-owned construction firms were not more likely to have contracted compared with all construction firms across the nation. Asian American- and Hispanic-owned construction firms had lower rates of contraction than all construction firms in the United States did, and they were about as likely to close as all construction firms were. African American construction firms were less likely to contract but significantly more likely to close. Figure F-25 shows these results.

**Figure F-25.**  
**Comparative Rates**  
**of Employer Firm**  
**Contraction,**  
**1997-2001**

Source:  
 U.S. Census Bureau 1997 Survey  
 of Minority- and Women-Owned  
 Business Enterprises (SMOBE) and  
 U.S. Small Business Administration.



**Summary.** Between 1997 and 2001, the SBA study found that 29 percent of Idaho employer firms had expanded employment, 23 percent had contracted employment and 32 percent had closed.

- African American-owned firms were as likely to expand and less likely to contract, but much more likely to close as all firms in the state.
- Asian American-owned firms were more likely to expand and less likely to contract, but more likely to close as all firms in the state.

- Native American-owned firms were more likely to close, much less likely to expand and much more likely to contract and close as all firms in the state.
- Hispanic American-owned firms were more likely to expand, about as likely to contract, and somewhat more likely to close as all firms in the state.

Data indicate that some minority firms in Idaho have lagged behind their non-minority counterparts in terms of firm survival and growth. African American-owned firms have a remarkably high rate of business closure, and Native American-owned firms were very likely to have contracted or closed. Asian American-owned firms and Hispanic American-owned firms fared better in Idaho, experiencing higher closure rates but lower rates of contraction.

## Business Earnings

The BBC study team examined business earnings of firms in Idaho from U.S. Census data and from responses to the study team's 2006 Availability Survey.

**Analysis of 2000 Census data.** BBC analyzed sample means from the 2000 Decennial Census Five Percent Public Use Microdata to evaluate earnings across the construction and engineering industries.<sup>91</sup> The sample used for this analysis contains incorporated and unincorporated business owners between ages 16 and 64 that reported positive earnings.

Figure F-26 presents earnings for business owners in the construction industry. In Idaho, minority-owned firms report lower earnings than non-Hispanic white-owned firms do. Disparities are also apparent by gender: female-owned construction businesses on average earn slightly above one-half of the average earnings of male-owned firms. Average earnings in the construction industry in Idaho are lower than national averages, and show similar trends across gender, race and ethnicity.

**Figure F-26.**  
**Mean annual business owner earnings, construction industry**

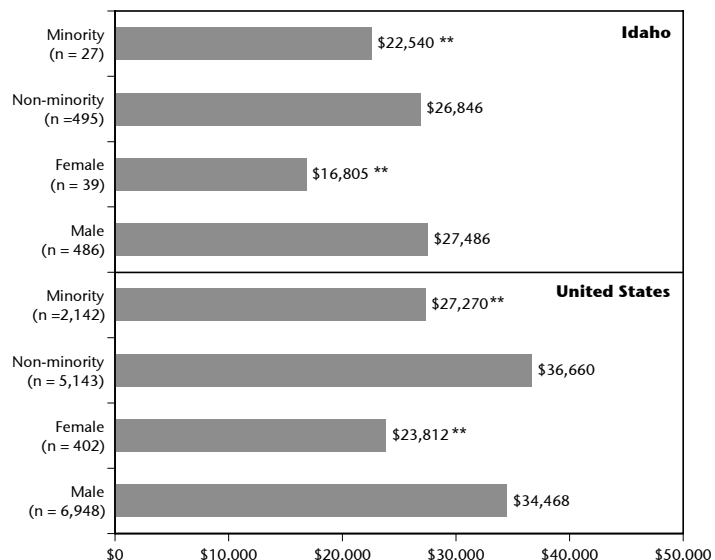
Note:

Universe is business owners between ages 16 and 64 that reported positive earnings.

\*\* = Statistically significant at the 95% confidence level.

Source:

2000 Decennial Census Five Percent Public Use Microdata Samples and BBC Research & Consulting.



<sup>91</sup> See Appendix G for additional information on the sample, specifications and caveats.

BBC also examined earnings among Idaho firms in the engineering industry. However, sample sizes were too small to generate robust conclusions. A casual analysis reveals that earnings in the engineering industry are similar among minority-owned firms and non-minority-owned firms in Idaho, different from national trends, which indicate that minority-owned engineering firms earn less than other firms do. Women-owned engineering firms reported significantly lower average earnings than male-owned firms in Idaho did, which is consistent with findings on women-owned engineering firms across the nation that reported earning less than male-owned firms.

Appendix H contains the results of multivariate statistical models that explored that the study team conducted to explore whether the disparities in business earnings reported here remained for members of certain minority groups and woman after controlling for neutral explanatory factors, such as the owner's age and education level. These results are reported in Figures H-4, H-5 and H-6.

**Gross revenue for firms in the 2007 Availability Survey.** BBC analyzed the gross revenue reported by firms working in the Idaho transportation construction industry (from all sources, not just ITD contracts) based on information reported in the 2007 Availability Survey. As shown below, about 55 percent of minority-owned firms in the Idaho transportation construction industry have gross revenue of less than \$1 million.

**Figure F-27.**  
**Distribution of firms by gross revenue net class in 2006, transportation construction industry**

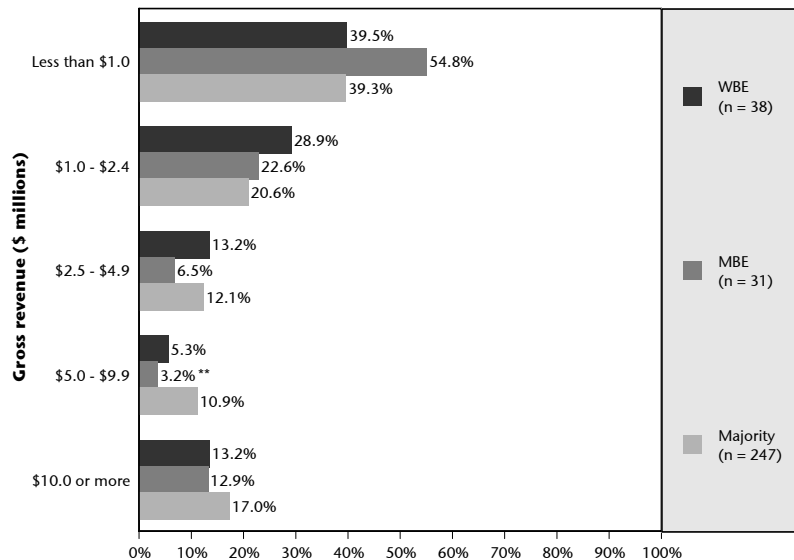
Note:

WBE is white women-owned firms.

\*\* Statistically significant at the 95% confidence level.

Source:

BBC Research and Consulting from 2007 Availability Survey.

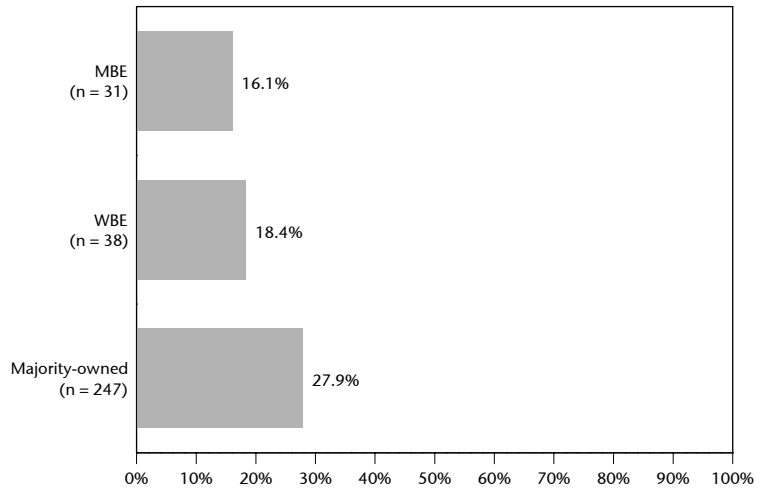


Relatively few MBEs and WBEs in the Idaho transportation construction industry have gross revenue of \$5 million or more.

**Figure F-28.**  
**Percentage of transportation construction industry firms with \$5 million or more gross revenues for all Idaho locations in 2006**

Note:  
WBE is white women-owned firms.  
\*\* Statistically significant at the 95% confidence level.

Source:  
BBC Research and Consulting from 2007 Availability Survey.

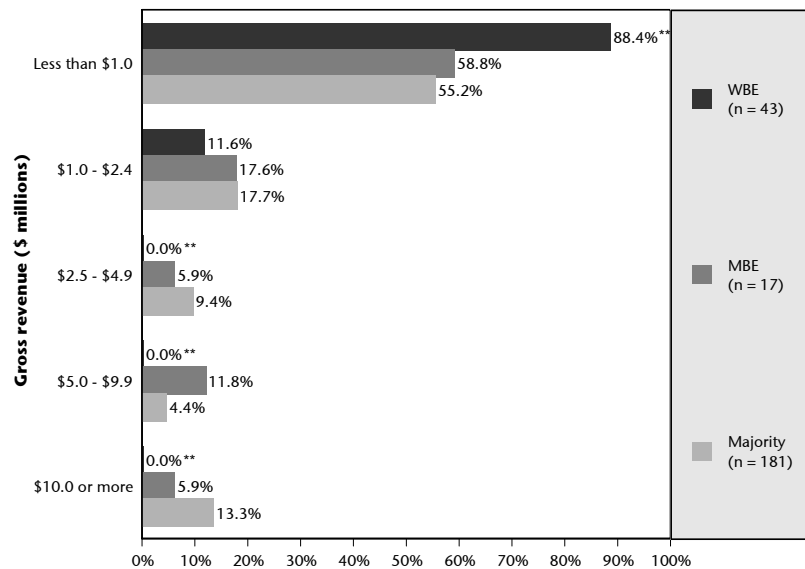


Similarly, majority-owned firms in the Idaho transportation engineering industry are more likely to be in the highest gross revenue classes than WBEs. A very large share of white women-owned firms reported gross revenue of less than \$1 million.

**Figure F-29.**  
**Distribution of firms by gross revenue class in 2006, transportation engineering industry**

Note:  
WBE is white women-owned firms.  
\*\* Statistically significant at the 95% confidence level.

Source:  
BBC Research and Consulting from 2007 Availability Survey.

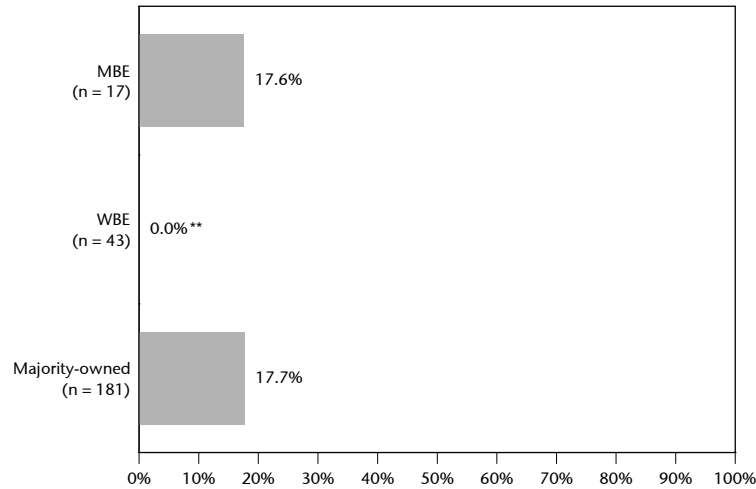


None of white women-owned engineering-related firms interviewed in the 2007 Availability Survey reported gross revenue of \$5 million or more.

**Figure F-30.**  
**Percentage of transportation**  
**engineering industry firms**  
**with \$5 million or more gross**  
**revenue for all Idaho**  
**locations in 2006**

Note:  
WBE is white women-owned firms.  
\*\* Statistically significant at the 95% confidence level.

Source:  
BBC Research and Consulting from 2007  
Availability Survey.



**Summary.** Minority and female owners of construction firms in Idaho had lower business earnings than non-minority and male business owners based on 2000 Census data. From the 2007 Availability Survey, minority- and women-owned construction firms in the Idaho transportation contracting industry had lower revenues, on average, than majority-owned firms. Relatively few MBE/WBEs reported gross revenue of \$5 million or more for 2006. This is also true for women-owned engineering-related firms in the Idaho transportation contracting industry.